TELEGRAPHIC ADDRESS: "TABACALERA"

HEAD OFFICE: BARCELONA

COMPANIA GENERAL DE TABACOS DE FILIPINAS

Established in 1882. **Capital: £ 3,000,000**

Shipping Department, 63 Escolta.

—

Manila

General Office,

Calzada Marques de Comillas.

—

Retail Store,

63 Escolta.

BRANCHES AND AGENCIES

—

in the principal cities of the world and towns of the Philippines

—

Proprietors of the celebrated factories

"La Flor de la Isabela"

High grade cigars manufactured with the most selected leaf grown in the estates of the Company.

SPECIAL BRANDS:

Pig's tails, Vegueros Especiales, Regalia A. Lopez, Regalia G. Pereire, Favoritos A. Lopez, Favoritos A. Correa, Perfectos Especiales, Exquisitos, Reina Victoria, etc.

Excellent common brands.

"La Clementina"

Alcohol Manufactures—Gin—Distilled Spirits

GENERAL IMPORTERS AND EXPORTERS

A very extensive coastwise service with up-to-date steamers

AGENTS FOR

COMPANIA TRASATLANTICA SS. CO.

(Spanish Royal Mail)

Direct service between Philippines, Spain, and England. Through tickets to and from New York issued. Lines of Steamers to all ports of the World.

FAR EASTERN BRANCH AGENCIES:

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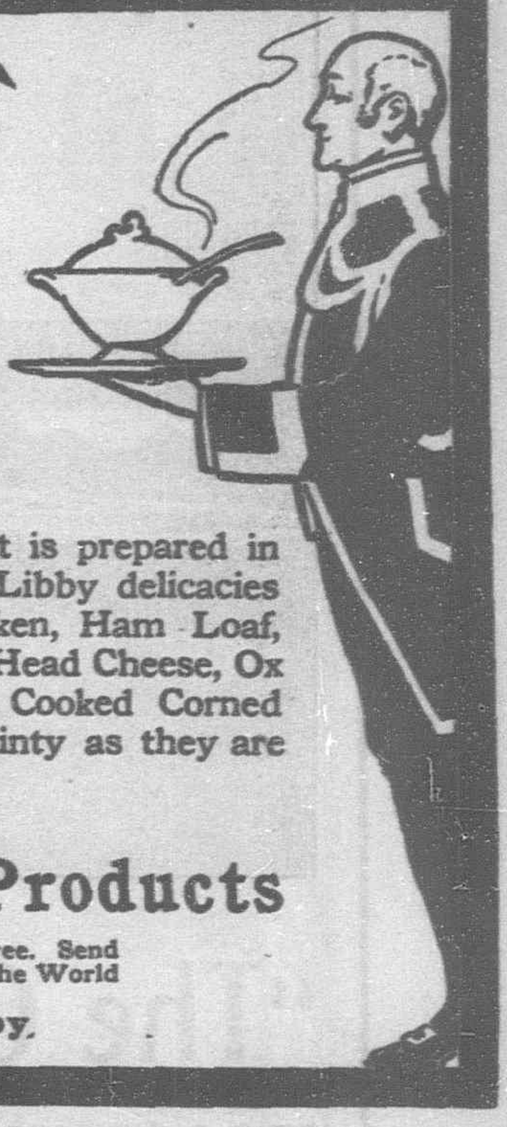
SHANGHAI	J. DELBOURGO, 29 Rue du Consulat.
HONGKONG	A. R. MARTY, 2 Pedder-st.
SINGAPORE	Max. STOLZEL, 4 Battery-rd.

Libby's

Corned Beef Hash



is one of the most appetizing dishes that is prepared in the Libby kitchens. Among the many Libby delicacies are Potted and Deviled Ham and Chicken, Ham Loaf, Vienna Sausage, Melrose Paté, Cottage Head Cheese, Ox Tongues, Jellied Hocks, Veal Loaf and Cooked Corned Beef—wholesome foods that are as dainty as they are good.

Ask your grocer for

Libby's (Natural Flavor) Food Products

Our booklet, "Good Things to Eat," sent free. Send five 2c stamps for Libby's Big Atlas of the World

Libby, McNeill & Libby.

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Swift's Jewel Compound

An Extra Quality Substitute for Lard

Swift's Jewel Compound is pure, wholesome and made only from materials of the highest quality. Every step in its manufacture is under direct supervision of trained U. S. Government Inspectors.

Swift's Jewel Compound costs much less than lard. It is not affected by climatic changes and will keep in perfect condition anywhere. Put up in pails, tubs, barrels and tierces.

Swift & Company, U. S. A.

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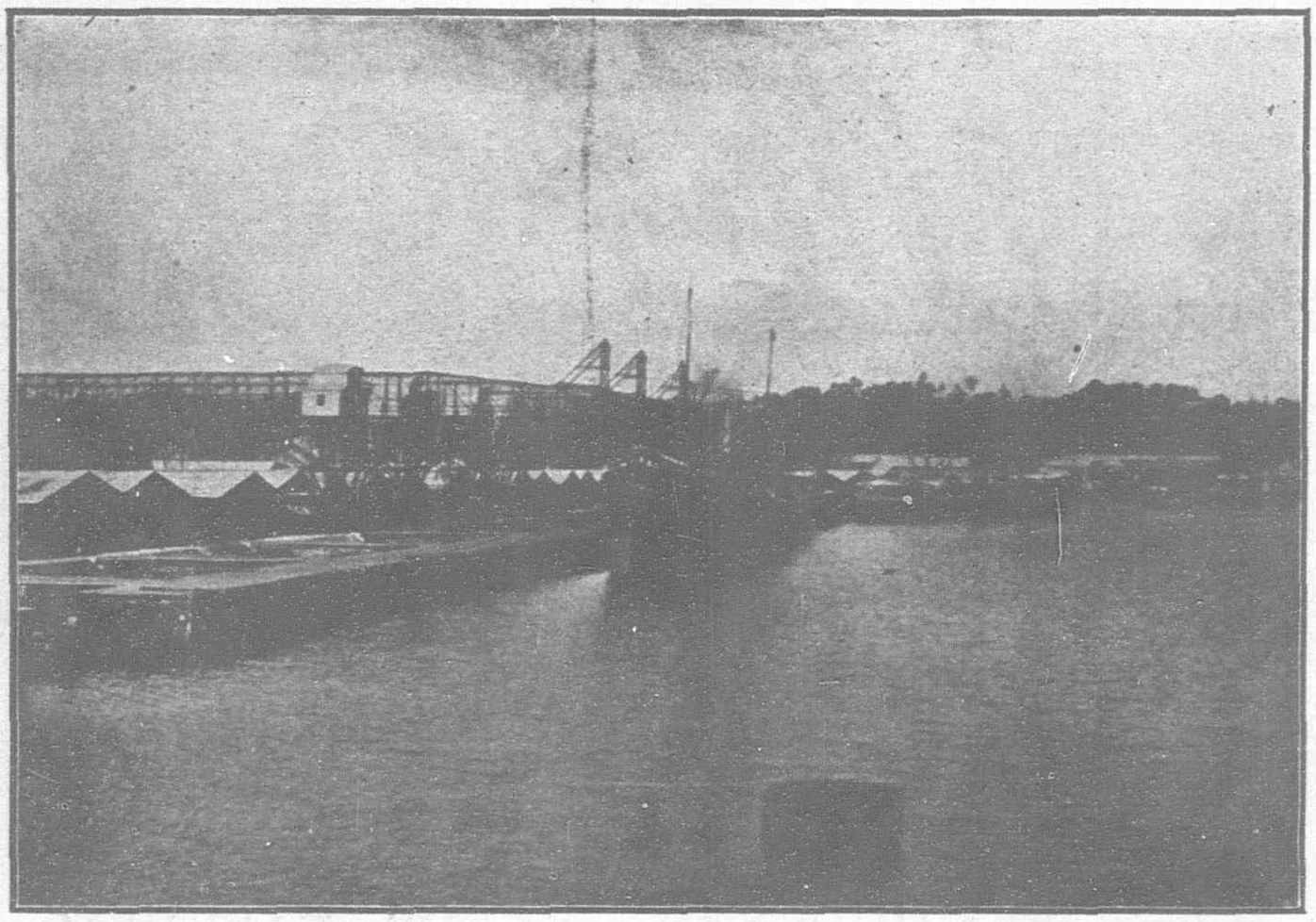

Sabang Bay Harbor and Coal Co., Ltd.

"The Gateway to THE FAR EAST"

SABANG, (PULO WEH, NORTH SUMATRA)

BEST WELSH, JAPAN, BENGAL AND OMBILIEN COALS AT CURRENT RATES, SHIPS MOOR AT WHARVES WITHOUT PORT DELAYS, AND COALED AT RATE OF 100 TONS PER HOUR : : : : :

LOW TIDE DEPTH OF WATER AT WHARVES, 30 FEET

NO HARBOUR, OR PILOTAGE DUES. NO WHARFAGE CHARGES WHEN TAKING COAL, WATER OR PROVISIONS : : : : : : : : : : :

Cable "Harcoal"

Sabang or Amsterdam

FLOATING DRY DOCK

3,000 TONS CAPACITY

MARINE REPAIRS OF ALL DESCRIPTIONS, PROMPTLY EXECUTED AT MODERATE RATES

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General Agent: G. A. Witt

Coaling Agents: Hull, Blyth & Co.

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Dodwell & Company

HONGKONG

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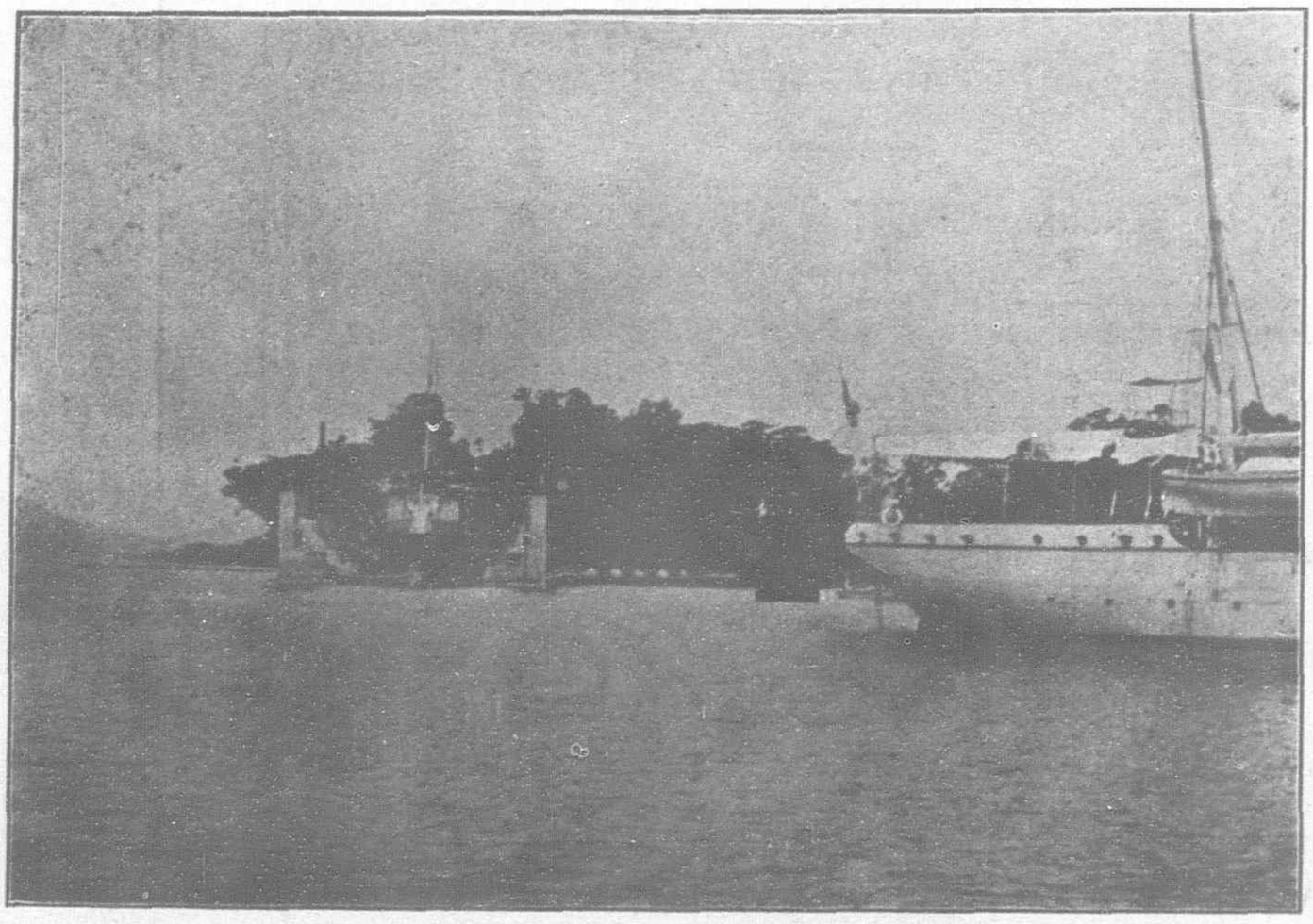
SINGAPORE

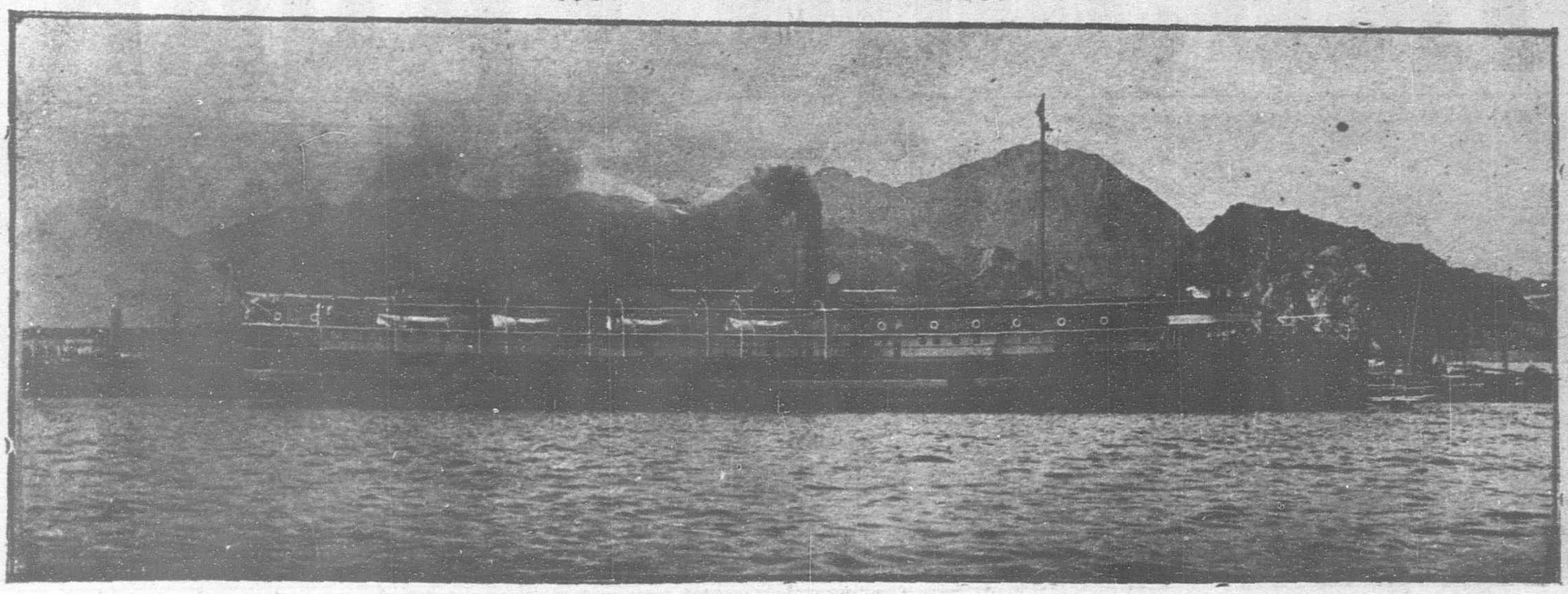
J. Daendels & Company, Limited



Hongkong & Whampoa Dock Co., Ltd.

ENGINEERS, BOILERMAKERS, FOUNDERS, SHIP BUILDERS AND DOCK OWNERS

...HONGKONG...



YANGTSZE RIVER STEAMER *LOONG-WO*, BUILT BY THE HONGKONG AND WHAMPOA DOCK COMPANY, LTD.

THE COMPANY'S DOCKS at KOWLOON, TAI-KOK-TSUI and ABERDEEN are in efficient working order, and the attention of Captains and Shipowners is respectfully solicited to the advantages which these Establishments offer for Docking and Repairing Vessels.

The Company has SIX GRANITE DOCKS and TWO PATENT SLIPS of the following dimensions:—

NAME OF DOCK OR SLIP	LENGTH ON KEEL BLOCKS	BREADTH AT ENTRANCE	DEPTH OVER SILL AT ORDINARY SPRING TIDES	RISE OF TIDE	
				SPRINGS	NEAPS
KOWLOON	*Feet.*	*Feet.*	*Feet.*	*Feet.*	*Feet.*
No. 1 Dock, Kowloon	576	86 feet top / 70 ft. bottom	30′	7′ 6″	3
No. 2 Dock, Kowloon	371	74′	18′ 6″	7′ 6″	—
No. 3 Dock, Kowloon	264	49′ 3″	14′	7′ 6″	—
Patent Slip, No. 1, Kowloon	240	60′	14′	7′ 6″	—
Patent Slip, No. 2, Kowloon	220	60′	12′	7′ 6″	—
TAI-KOK-TSUI					
Cosmopolitan Dock	466	85′ 6″	20′	7′ 6″	—
ABERDEEN					
Hope Dock	430	84′	23′	7′ 6″	—
Lamont Dock	333	64′	16′	7′ 6″	—

The DOCKS are fitted with every appliance in the way of Caissons, powerful Centrifugal Steam Pumps, etc., which enable them to be pumped out in three hours.

WORKSHOPS.—The extensive workshops on the premises at Kowloon, Cosmopolitan, and Aberdeen Docks possess every facility and appliance necessary for the repairs of ships and steam machinery. The Engineers' Shops are supplied with a large plant of the latest types of tools in the way of Lathes, Planing, Milling and Screwing Machines, Electric Cranes ,etc., etc., and capable of executing the largest class of work with despatch. The Shipwrights' Department has attached to it a Steam-Sawmill with Circular, Vertical and Band Saws, and also a complete plant of Wood-working Machinery of the most modern and improved type. The Blacksmiths' Shops are equally well furnished with a complete supply of powerful Steam Hammers, Cranes, etc., capable of forging stern posts and crank and straight shafting of the largest size.

Powerful Lifting Shears with steam purchase at two of their Establishments stand on a solid granite seawall, alongside which vessels can lie drawing 24 feet of water, and take in or out boilers, etc. The Shears at Kowloon are capable of lifting 70 tons.

The Company is prepared to tender for the construction of new vessels in either steel, iron or wood, having already built about 400 of varying sizes up to 3,000 tons; also to execute all kinds of ship work at lower rates and with greater despatch than any establishment in the East. Every department is under the close supervision of experienced European foremen.

SHIP-YARD is fully equipped with modern plant, including hydraulic flanging and bending machines, electrically driven rolls, punching, shearing, angle-bevelling, joggling and planing machines, capable of dealing with the heaviest class of work.

BOILER-MAKERS' DEPARTMENT.—The Company, in addition to executing repairs, is prepared to tender for new boilers to steamships for the construction of which it possesses special facilities, including powerful punching and shearing machines, hydraulic rivetters, etc.

FOUNDRY.—The Foundry is fitted with a large powerful Steam Crane and the Cupolas are capable of casting up to 100 tons. The Company is prepared to supply the very best Iron and Brass Castings of all descriptions upon the shortest notice.

GALVANIZING PLANT of the most modern type by electrical deposit has been put up at the Kowloon Establishment, which is capable of doing the largest class of work.

STORES.—The Company's Godowns contain large and well-selected stocks of all material and fittings requisite in shipbuilding, engine-room outfits, furnishings, and ships' stores of all descriptions supplied at tariff rates.

For Further Particulars apply at the Offices of the Company, Queen's Buildings, No. 1, New Praya, Hongkong, or to

FINDLAY & CO., Agents, Manila, P. I.

THE TANJONG-PAGAR DOCK BOARD SINGAPORE

Engineers, Shipbuilders and Ship Repairers, Boilermakers, Iron and Brass Founders, Wharfingers, etc.

GRAVING DOCKS

	WIDTH	WIDTH AT ENTRANCE	DEPTH OF WATER ON SILL HIGHEST SPRING TIDES
VICTORIA GRAVING DOCK (TANJONG PAGAR) GRANITE	450′	65′	20′
ALBERT GRAVING DOCK (TANJONG PAGAR) GRANITE	480′	60′	21′
NO. 1. GRAVING DOCK (KEPPEL HARBOUR) GRANITE	415′	42′	15′
NO. 2. GRAVING DOCK (KEPPEL HARBOUR) GRANITE	444′	65′	19′
NEW DOCK (UNDER CONSTRUCTION)	811′	—	—

SHIPBUILDING YARDS

Are suitable for building steel, iron, composite or wooden vessels of any size, and the Company will furnish plans, specifications, and all requisite information on application. There are a number of steel launches always in course of construction, ready for completion at short notice.

MACHINE SHOPS

The machine shops are fitted with a large variety of modern labour-saving appliances. The lathes are capable of boring cylinders 100 inches diameter, turning pistons 9′ diameter, and shafting up to 45′

WHARVES

TANJONG PAGAR WHARF—Length two-mile; low water ..... 20′ to 45′
KEPPEL HARBOUR WHARF—Length 300′ ,, ,, ... 16′ to 26′

Powerful sheers and cranes for lifting boilers, etc. (45 tons).
Extensive godowns, capacity 300,000 tons.

COMPLETE EQUIPMENT OF SALVAGE APPLIANCES, PUMPS, ETC.—POWERFUL STEAM TUGS, STEAM LAUNCHES AND LIGHTERS—FRESH WATER—ELECTRICAL REQUIREMENTS SUPPLIED.

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Codes Used:
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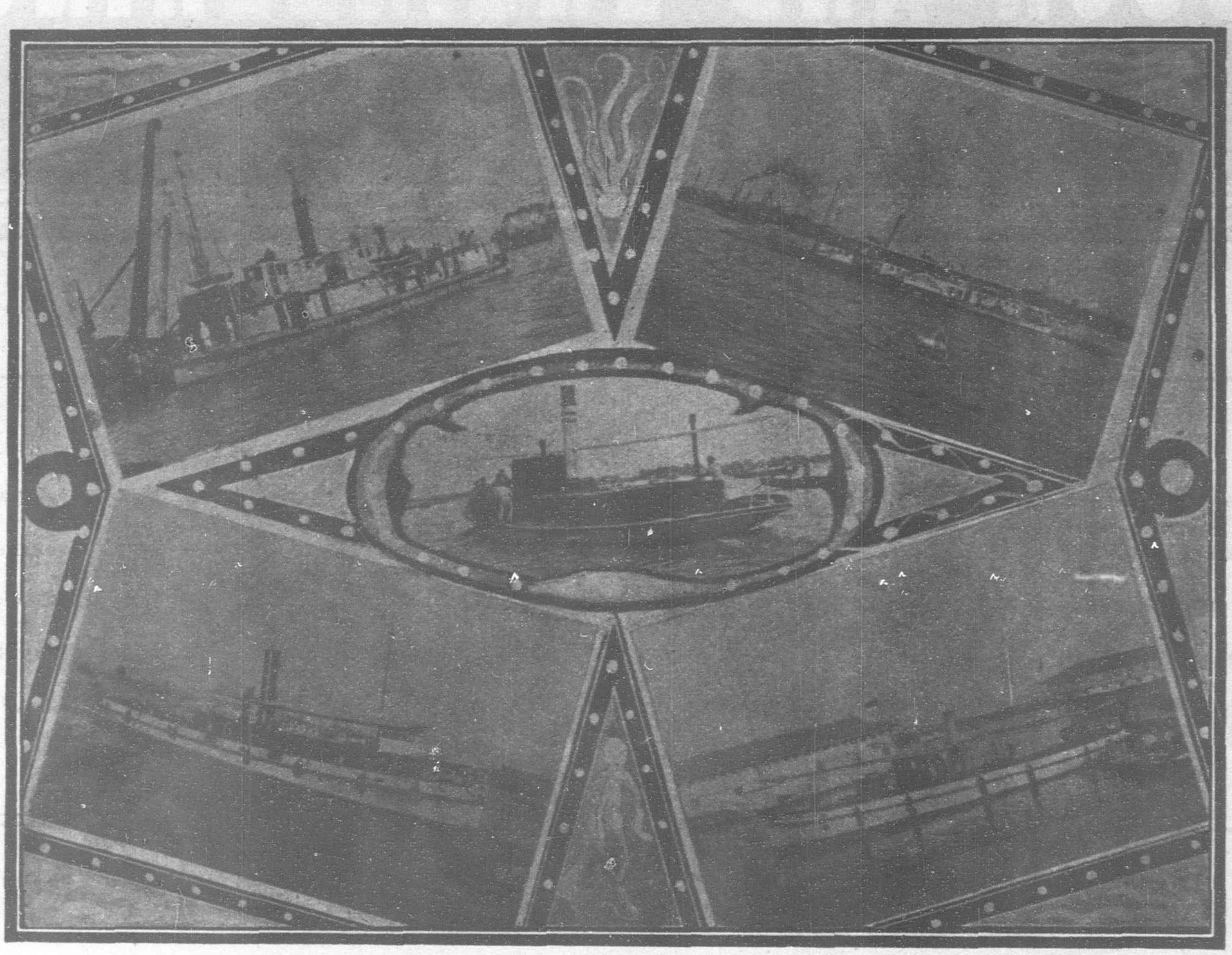
THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

(Late S. C. Farnham, Boyd & Co., Ltd.)

SHANGHAI, CHINA

Dock Owners, Engineers, Founders, Boiler-makers, Shipbuilders, and Electricians



TYPES OF SMALL STEAMERS BUILT BY THE SHANGHAI DOCK AND ENGINEERING CO., LTD.

THE DOCKS

The Docks are five in number ranging in length from 360 fee to 560 feet, and breadth of entrance from 57 feet to 83tfeet, with the depth of water on the sill from 16 feet to 24 feet.

The Dock charges are very moderate.

The Water Frontageisabout 1½ miles in length. Wharves and Pontoons are arranged where steamers can moor during repairs; and slips for hauling up small vessels are provided. Sheer legs capable of lifting 65 tons are placed at the various Docks.

The extensive shipbuilding yards and workshops are provided with the latest improvements in tools, traveling cranes of 70 tons' capacity, hydraulic and pneumatic machinery.

Lit up by electric light with railway lines through workshops and yards.

OTHER WORKS

Powerful salvage appliances can be supplied at short notice. Enquiries immediately attended to.

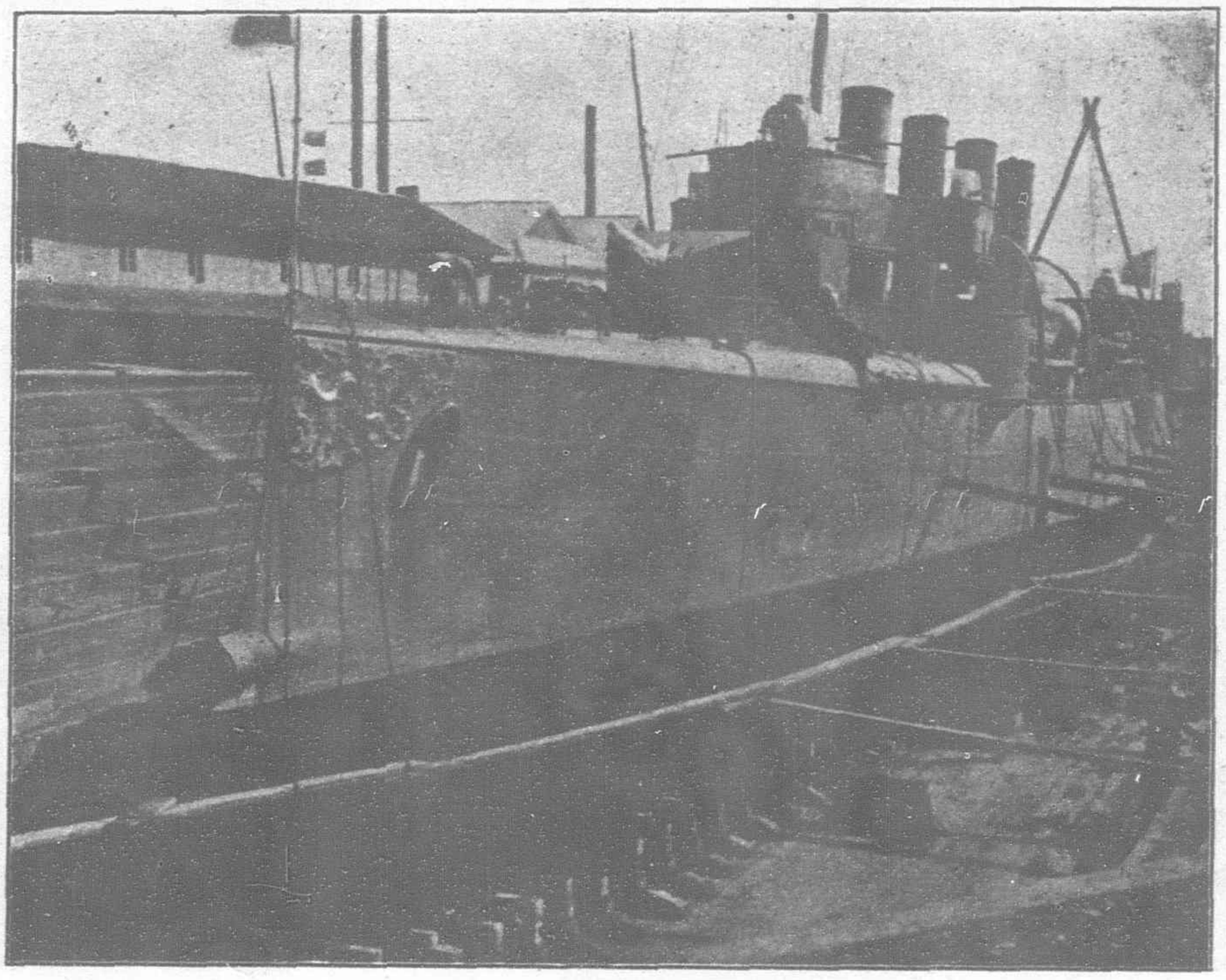
Estimates given for all classes of work; Coast Steamers, Side and Stern-Wheelers, Tugboats, Launches, Steam Barges, Dredgers, Floating Cranes, and Lighters a speciality.

Every description of repairs and renewal work undertaken and expeditiously executed.

Land and Marine Engines and Boilers, Centrifugal, Mining, and other pumping machinery always in stock or in progress, also power-driven Machine Tools, Engineer's Hand Tools, Steam, Gas, Oil, and Electric machinery and engineering accessories generally.

CORRESPONDENCE INVITED

KIANGNAN DOCK AND ENGINEERING WORKS



CHINESE CRUISER ON DOCK

The new machine and boiler shops, and the foundry and shipbuilding plant are equal to any this side of Suez.

Patent slipway for small steamers and launches. Complete boat and launch building shops.

KIANGNAN DOCK—Length over all, 385′; length on blocks, 375′; water on sill, 19′; dock entrance, top, 70′, bottom, 60′. The dock accommodates the largest coasting steamers and is equipped with complete modern facilities for handling work thoroughly and promptly.

CONTRACTORS FOR REPAIRING, DOCKING AND REFITTING THE VESSELS OF THE IMPERIAL CHINESE NAVY AND THE IMPERIAL MARITIME CUSTOMS

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CABLE "NICOLAS" — SHANGHAI

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STEEL LIGHTERS
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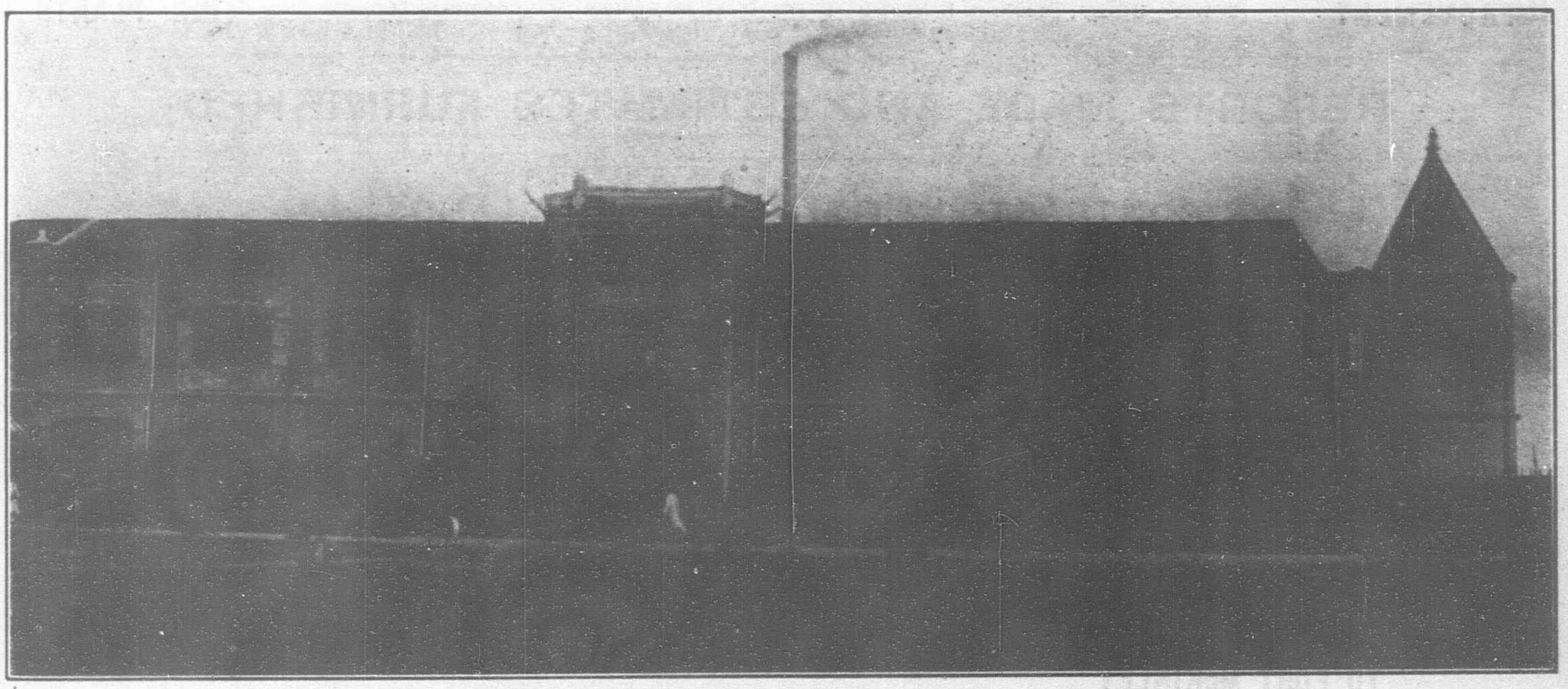
MILL MACHINERY OF ALL DESCRIPTION,
BOILERS, CASTINGS
FORGINGS, etc.

BRICK AND TILE WORKS
AT TUNGKU ZENG-KA-TSE

OUTPUT 2,000,000 PER MONTH: BRICKS MADE TO ORDER IN ANY SIZES AND COLOR

LOCATION OF WORKS: AVENUE DE BEZAURE, SOUTH CHINA BUND, SHANGHAI

Or Care of Banque de l'Indo Chine, No. 1 Quai de France, Shanghai



VIEW OF MACHINE SHOPS, FOUNDRY AND WORKS

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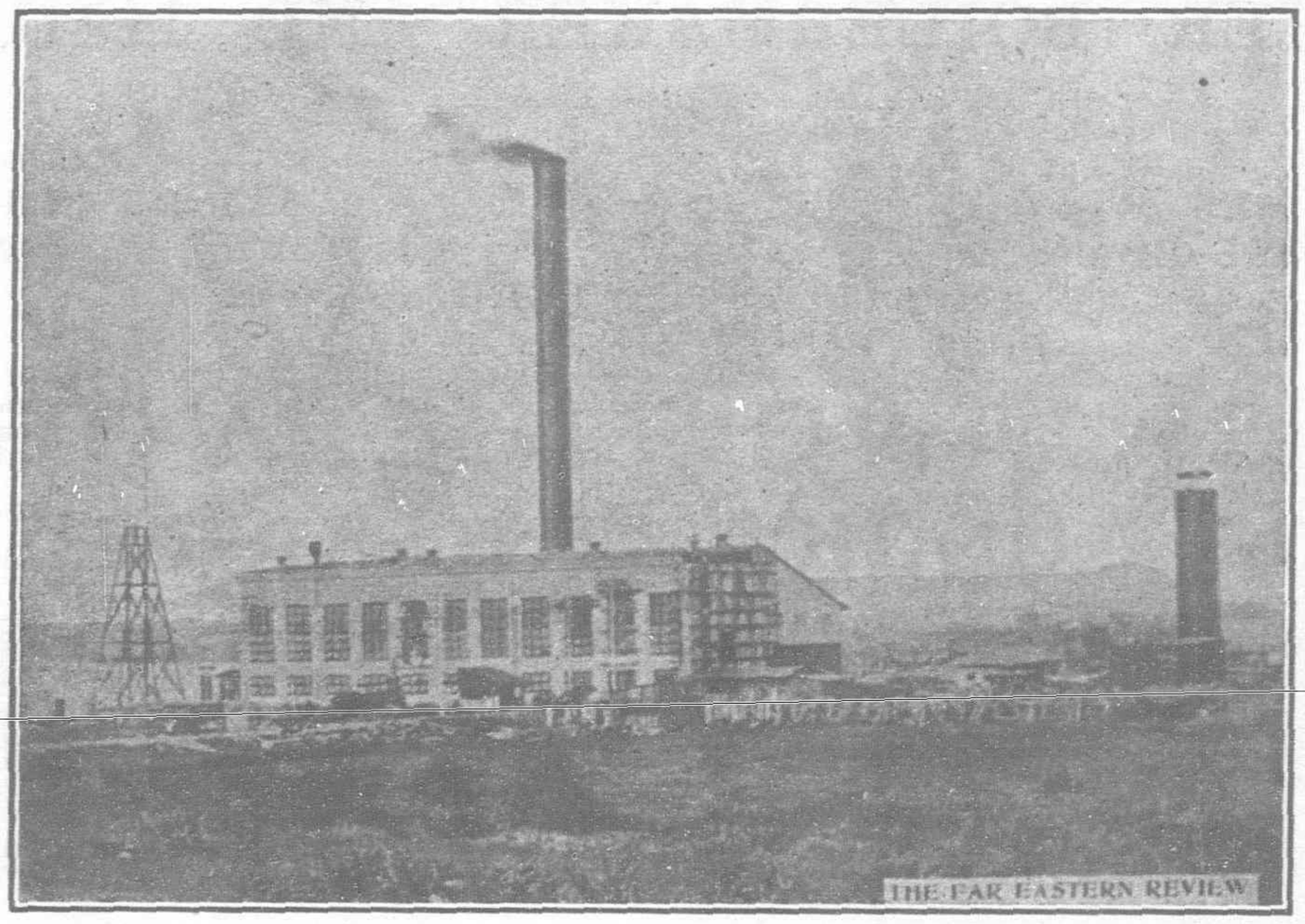
POWER PLANTS

ELECTRIC LIGHTING AND POWER

WATER POWER DEVELOPMENT

STEAM RAILROADS

RIVER AND HARBOUR IMPROVEMENT



POWER HOUSE, MANILA ELECTRIC R. R. & L. CO., MANILA, CONSTRUCTED BY J. G. WHITE & CO. (INC.)

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WHARVES

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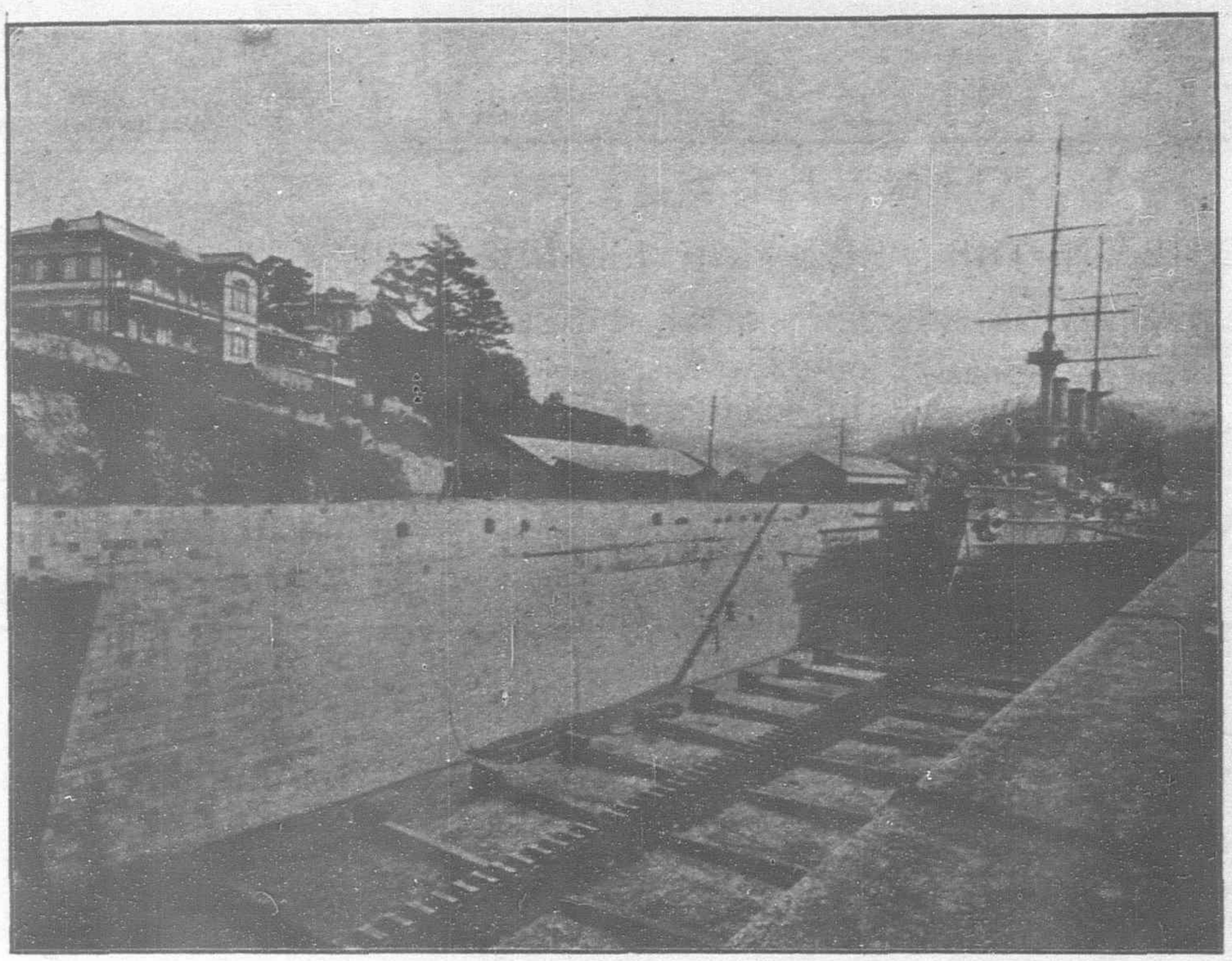
FORT WILLIAM McKINLEY—PASIG EXTENSION, MANILA E. R. R. & LIGHT CO.—COMPLETED TO FORT McKINLEY



MITSUI BISHI'S NO. 3 DOCK (714′ ON BLOCKS) WITH H. I. J. M. WARSHIP "IKI" ON THE STOCKS

MITSU BISHI DOCKYARDS & ENGINE WORKS, NAGASAKI

DOCK NO. 1.

EXTREME LENGTH	523	FT.
LENGTH ON BLOCKS	513	,,
WIDTH OF ENTRANCE ON TOP . .	88	,,
,, ,, ,, ,, BOTTOM .	77	,,
WATER ON BLOCKS AT SPRING TIDE	26½	,,

DOCK NO. 2.

EXTREME LENGTH	371	FT.
LENGTH ON BLOCKS	360	,,
WIDTH OF ENTRANCE ON TOP . .	66	,,
,, ,, ,, ,, BOTTOM .	53	,,
WATER ON BLOCKS AT SPRING TIDE	22	,,

DOCK NO. 3.

EXTREME LENGTH	722	FT.
LENGTH ON BLOCKS	714	,,
WIDTH OF ENTRANCE, TOP . . .	99½	,,
,, ,, ,, BOTTOM .	88½	,,
WATER ON BLOCKS AT SPRING TIDE	34½	,,

PATENT SLIP FOR VESSELS UP TO 1,000 TONS, GROSS

THE BEST EQUIPPED SHIPBUILDING PLANT IN THE FAR EAST,

WITH SPECIAL FACILITIES FOR HANDLING THE HEAVIEST CASTINGS AND THE REPAIRING OR BUILDING OF SHIPS, ENGINES AND BOILERS, ALSO ELECTRICAL WORK.

LARGE STOCK OF MATERIAL, AND FITTINGS ALWAYS ON HAND

THE POWERFUL SALVAGE STEAMER "OURA-MARU" (712 TONS, 700 I. H. P.) EQUIPPED WITH NECESSARY PUMPS AND GEAR, IS ALWAYS READY AT SHORT NOTICE.

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For leaky boilers "Smooth-On" is indispensable. It saves boilermakers' bills and worry, as when applied the cement metalizes, becomes part of the boiler, and effects a permanent cure.

ATLAS PRESERVATIVES—BOILER, IRON AND WOOD

BOILER PRESERVATIVE E. prevents corrosion and the formation of scale. In boilers where corrosion is taking place it will effectually check it, and all scale will be entirely removed. The use of zinc plates and soda is dispensed with. By using **PRESERVATIVE E.** a boiler can be kept in better condition and at less cost. It is used by all the leading steamship lines and in many large power installations and mills. For water-tube boilers it has been especially recommended, as no matter how bad the feed water no scale is deposited on the heating surfaces, nor is corrosion allowed to take place.

PRESERVATIVE A. protects from white ants and other destructive insects, and from organic decay. In conjunction with coal tar, it is an effective substitute for creosoting. For railway tracks it is unique, as it is directly preservative to wood, iron and other metals with which it comes in contact, and scrub grass and weeds are eradicated.

BLUNDELL'S ALUMINUM PAINT

For all purposes. Will withstand heat, sea-water and all atmospheric conditions and has a neat and elegant appearance.

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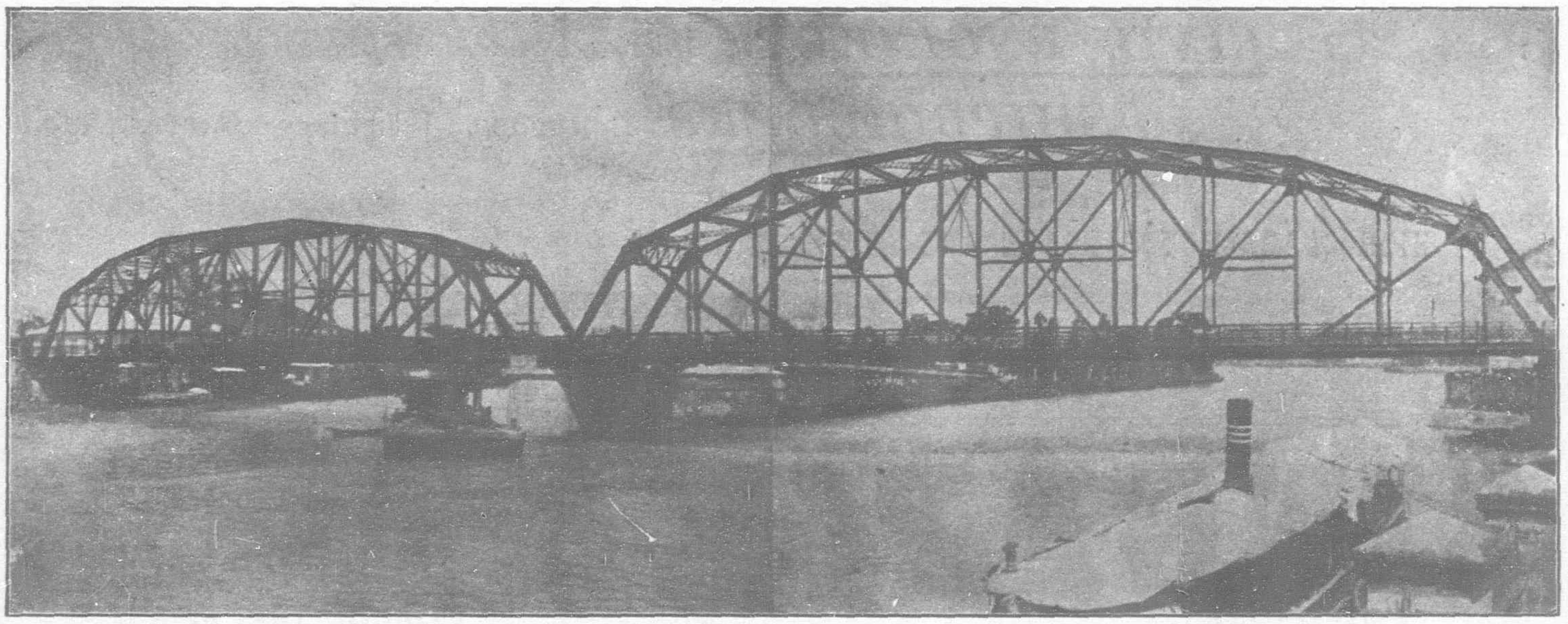
ATLANTIC, GULF AND PACIFIC COMPANY

(Incorporated)

ENGINEERS AND CONTRACTORS

BRIDGE BUILDERS



Ayala Bridge over the Pasig River, Manila, erected by the Atlantic, Gulf and Pacific Company

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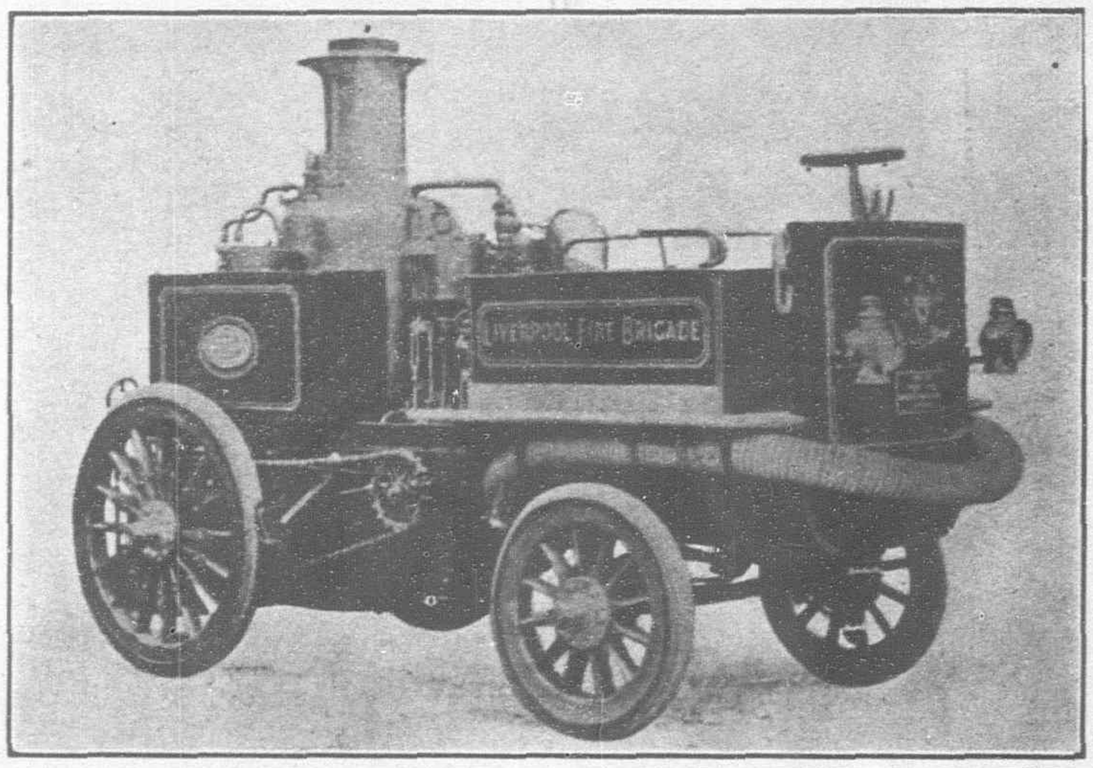
ENGINES, BOILERS, PUMPS AND ELECTRICAL MACHINERY FOR ALL PURPOSES
ENGINEERING AND ELECTRICAL SUPPLIES IN STOCK



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COMBINE GREAT STRENGTH WITH DURABILITY AND ARE IMPERVIOUS TO DESTRUCTIVE INSECTS AND DAMP

SPECIALLY ADAPTED FOR ALL KINDS OF ENGINEERING AND CONSTRUCTION WORK CABINET, ART WORK AND WOOD PAVING

LARGE STOCKS CARRIED RAILWAY SLEEPERS, PILES WHARF AND BRIDGE TIMBERS, TELEGRAPH POLES, FLOORING, PAVING BLOCKS, ETC.

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REDWOOD
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OPERATING OWN SAW MILL SUPPLYING ANY SIZES AND LENGTHS.

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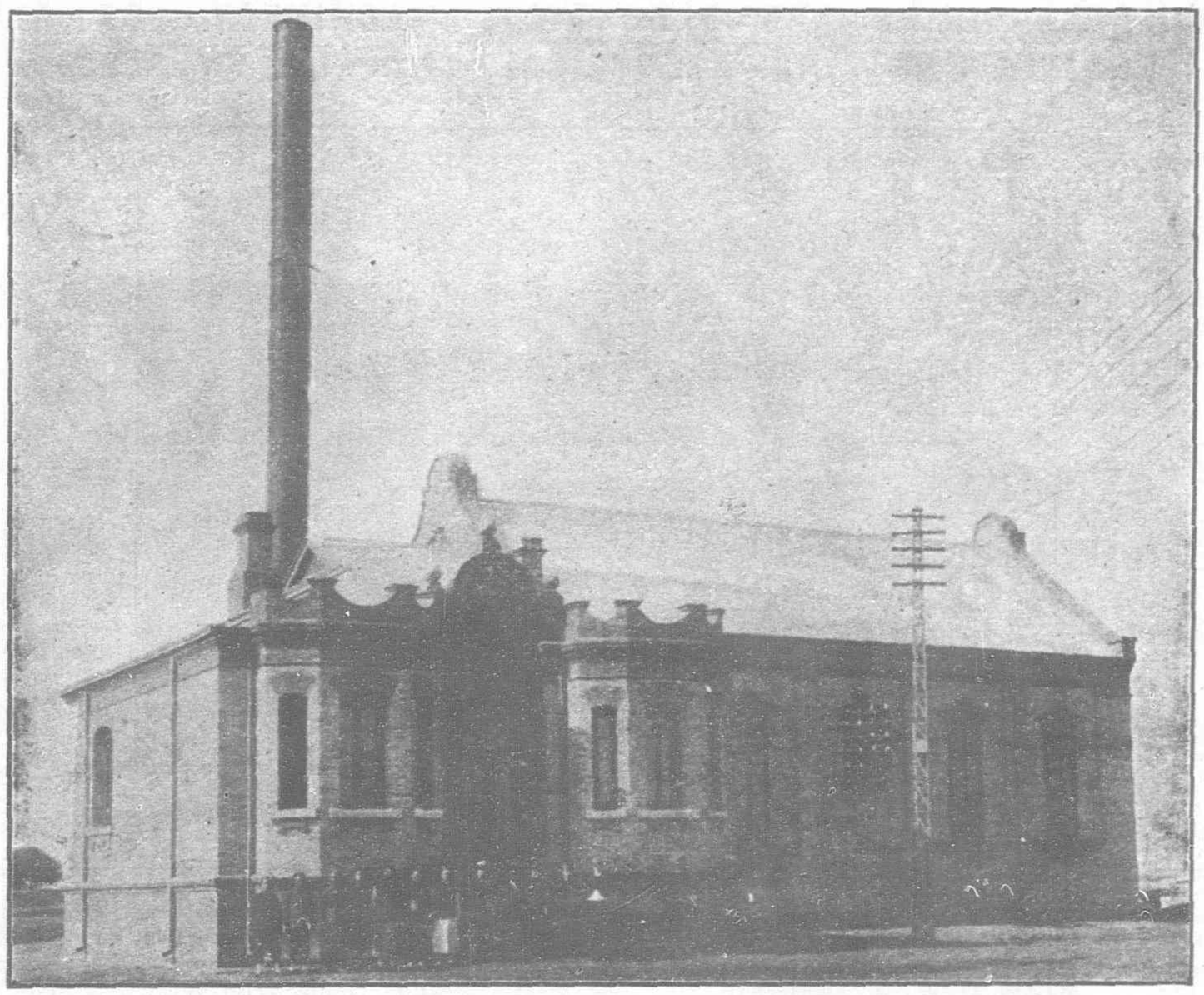

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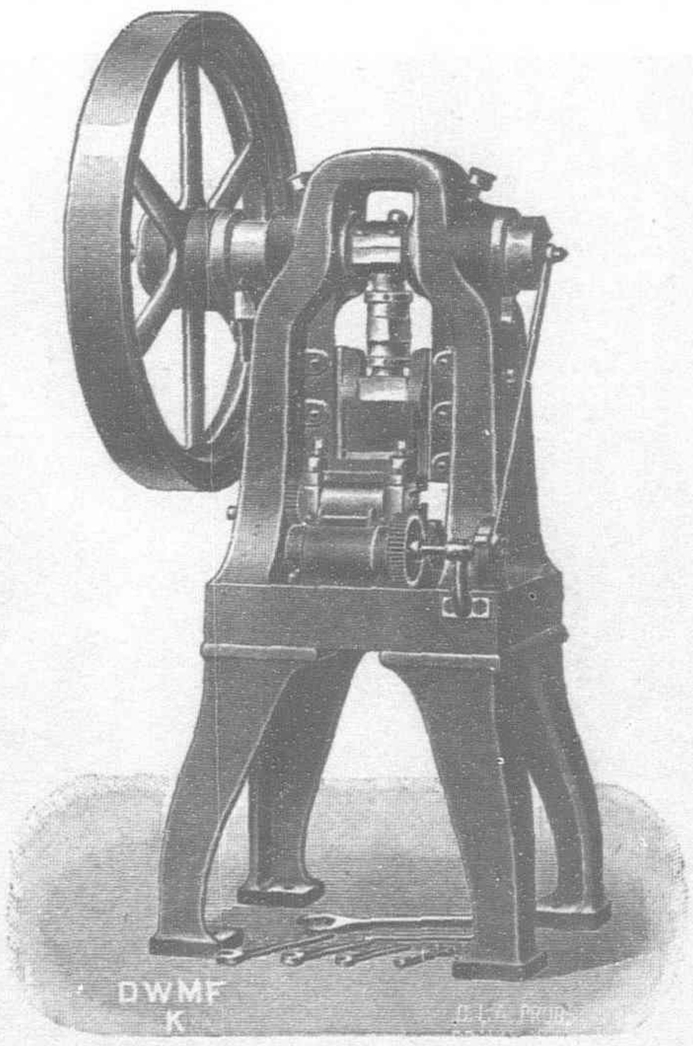

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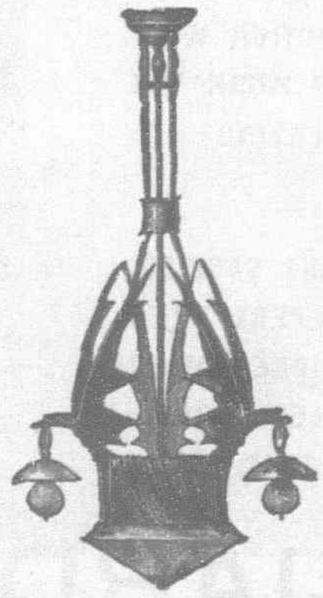

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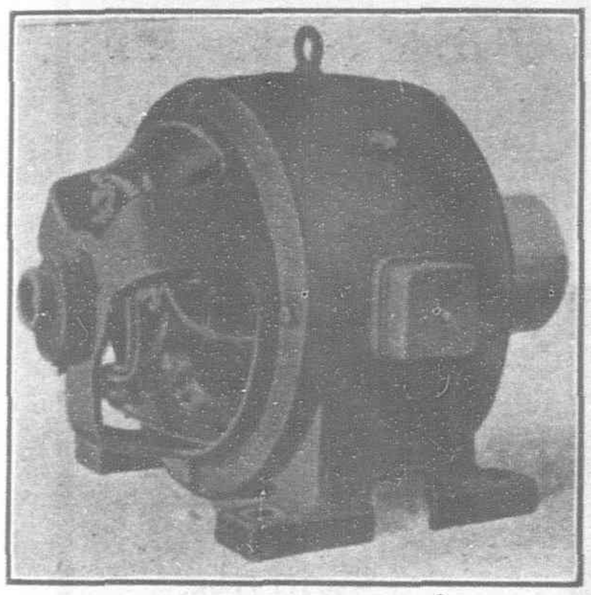

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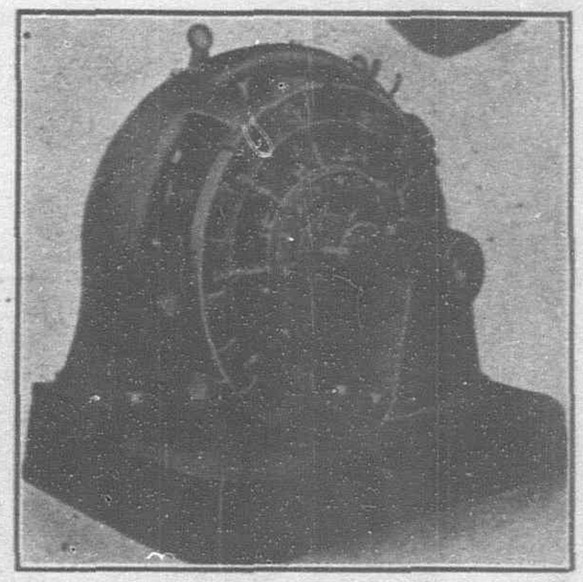

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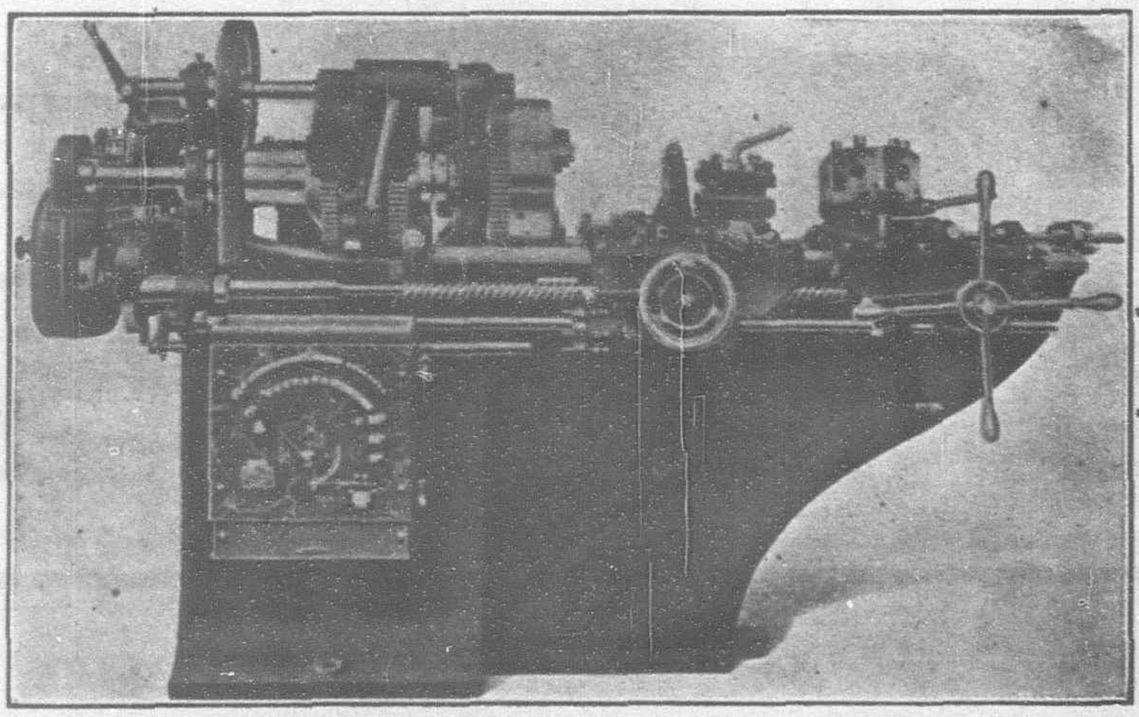

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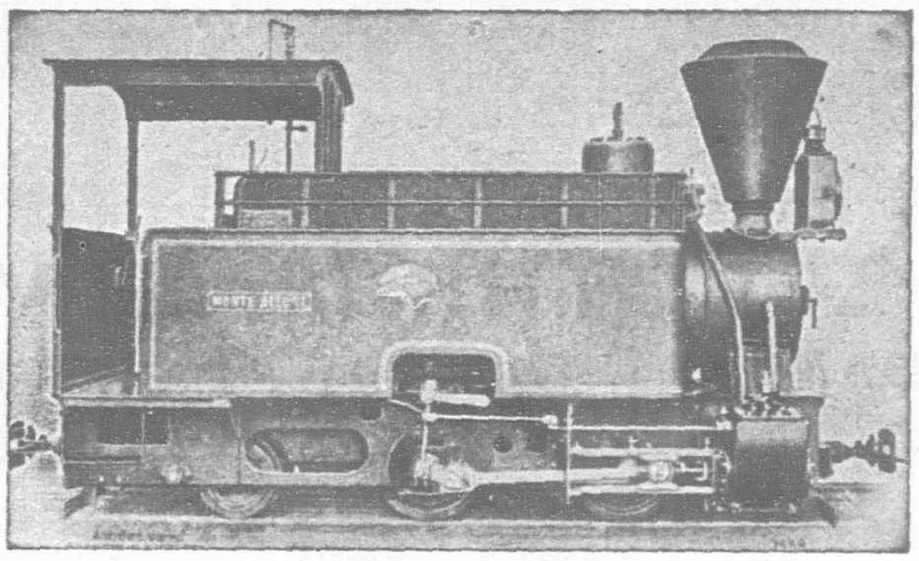

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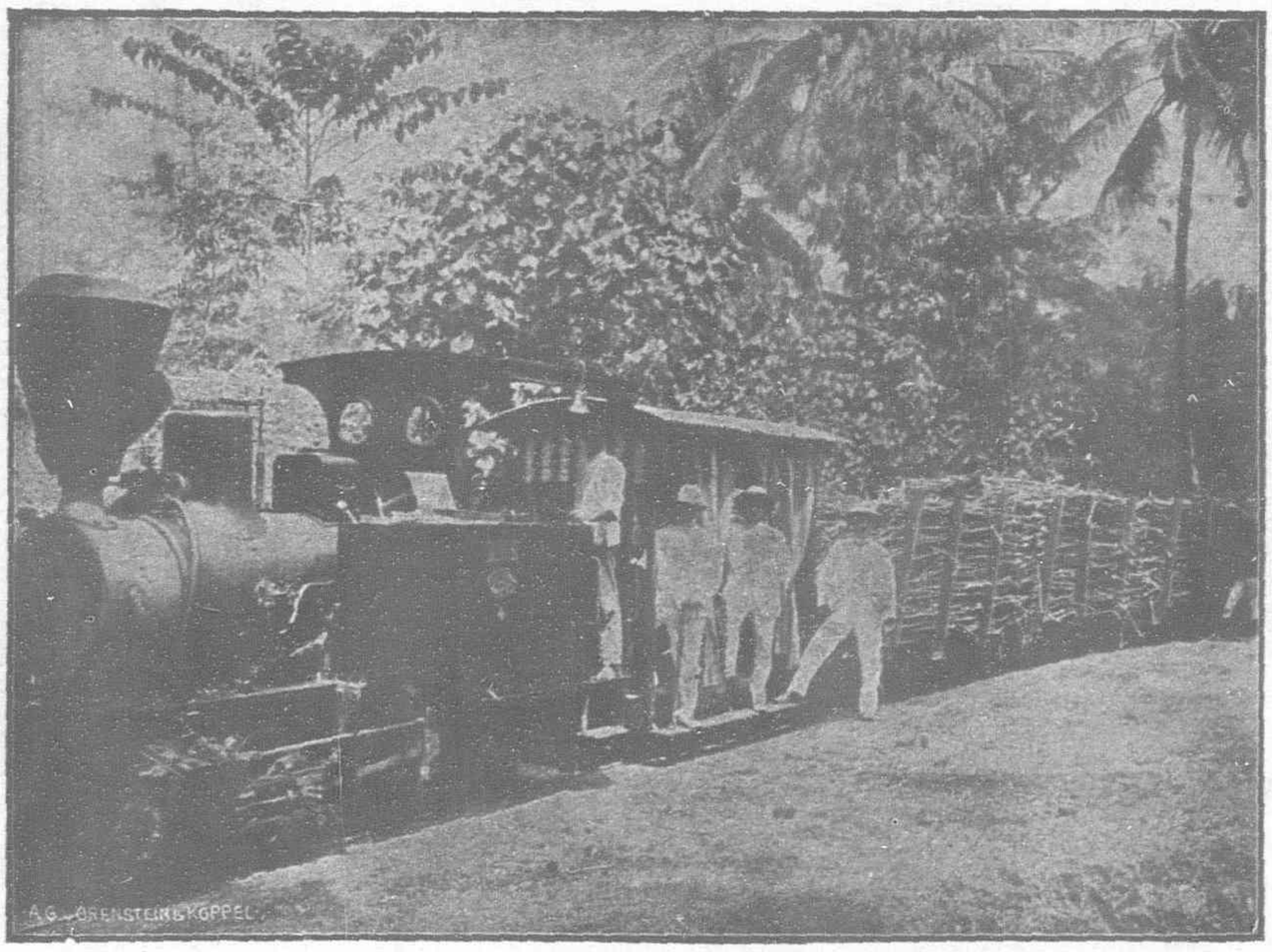

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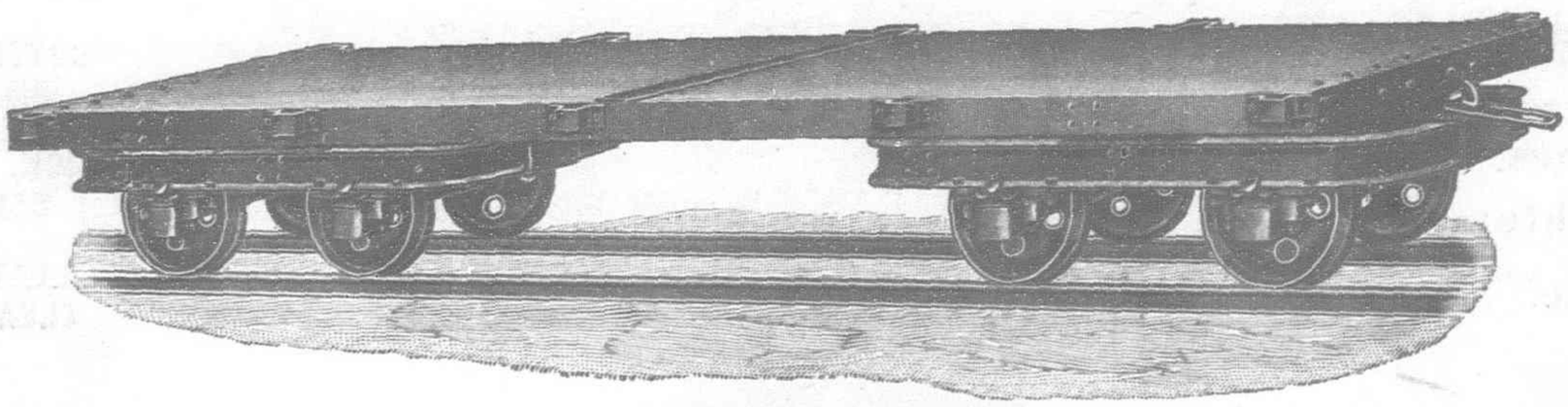

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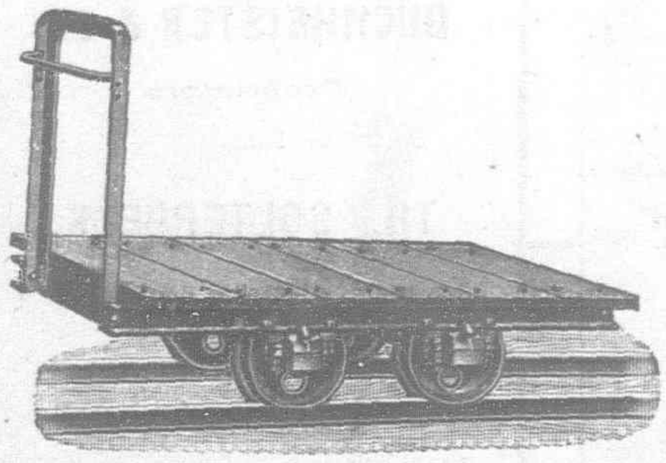

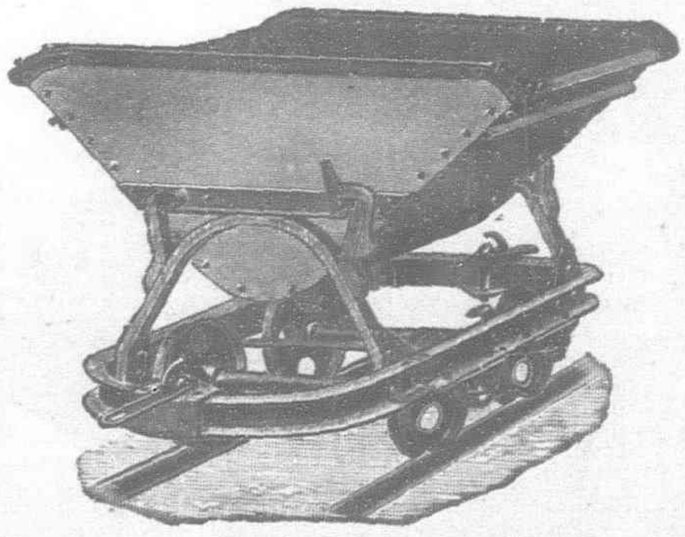

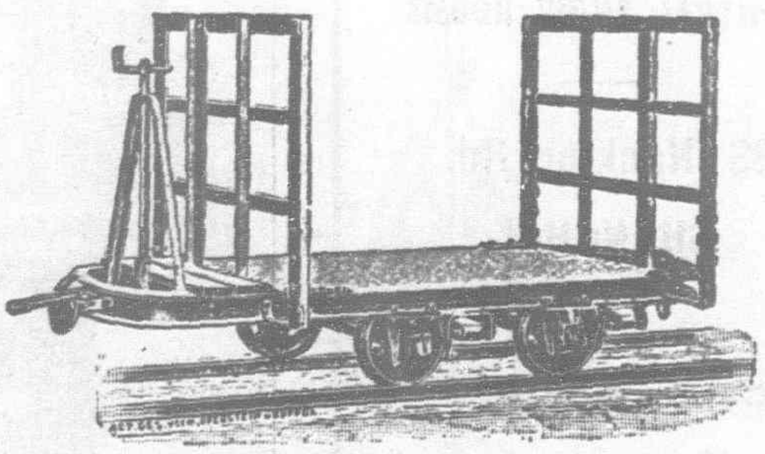

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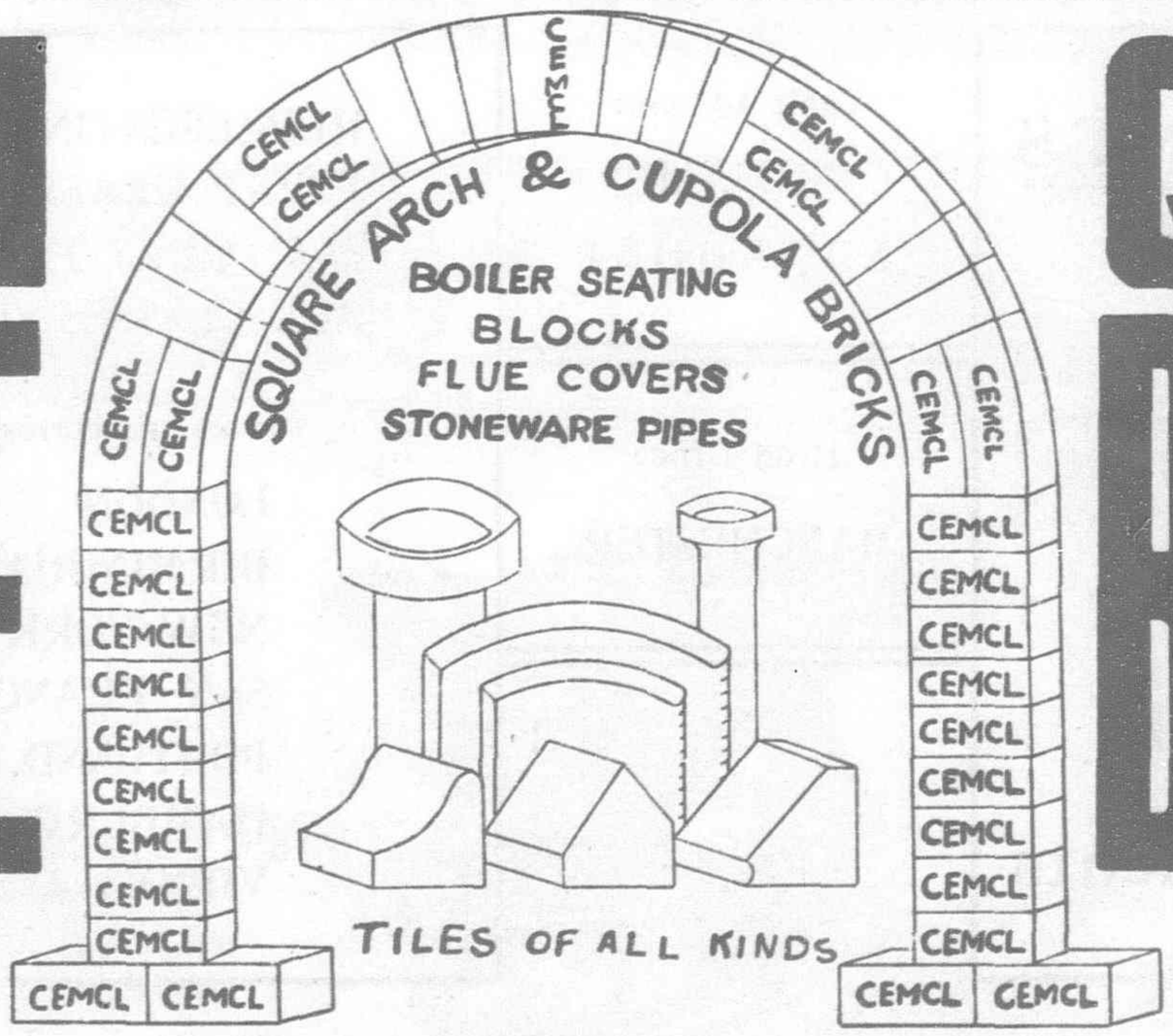

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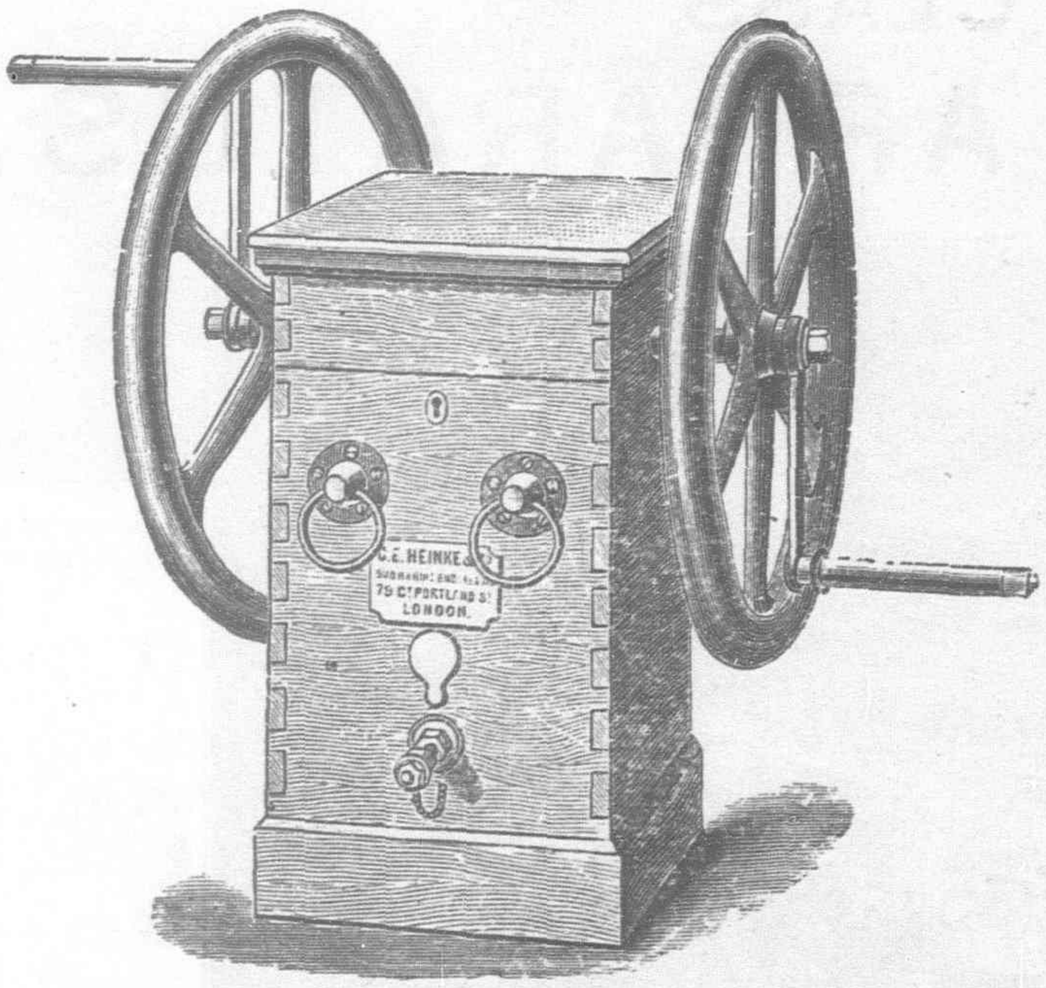

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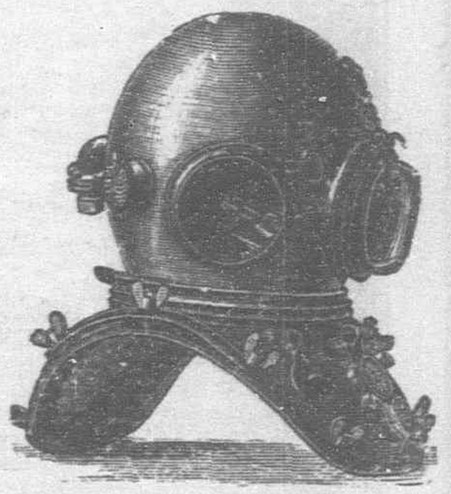

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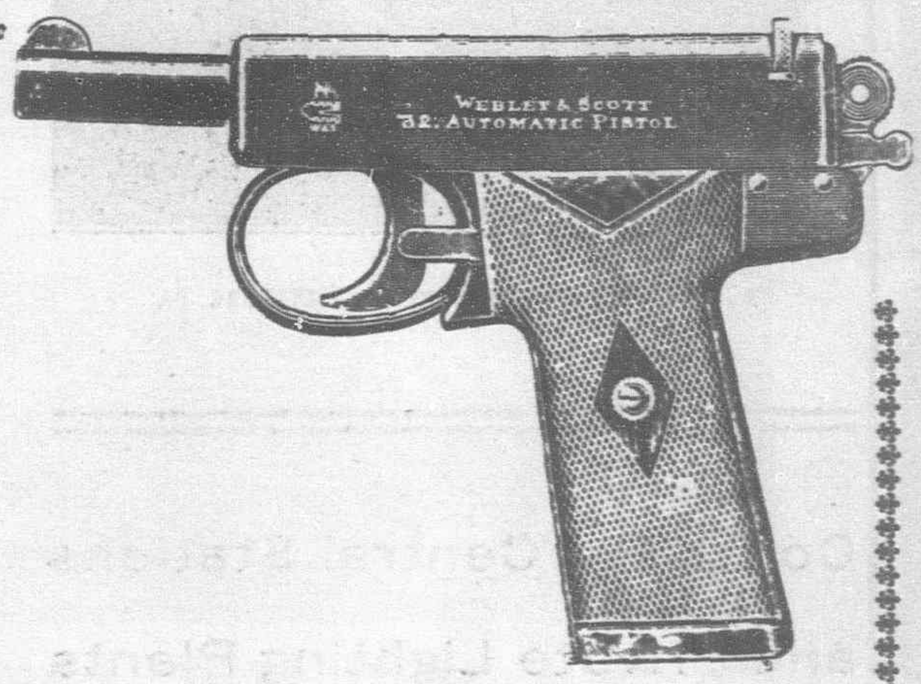

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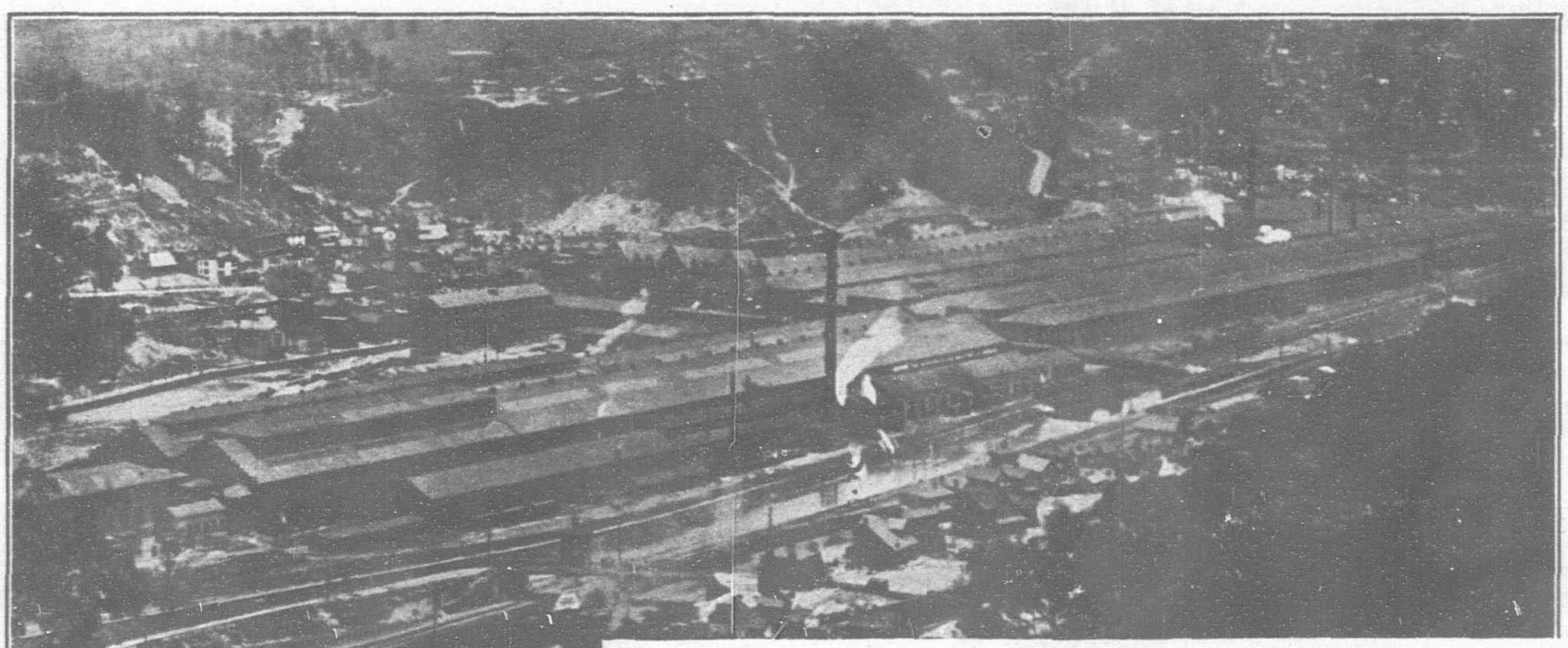

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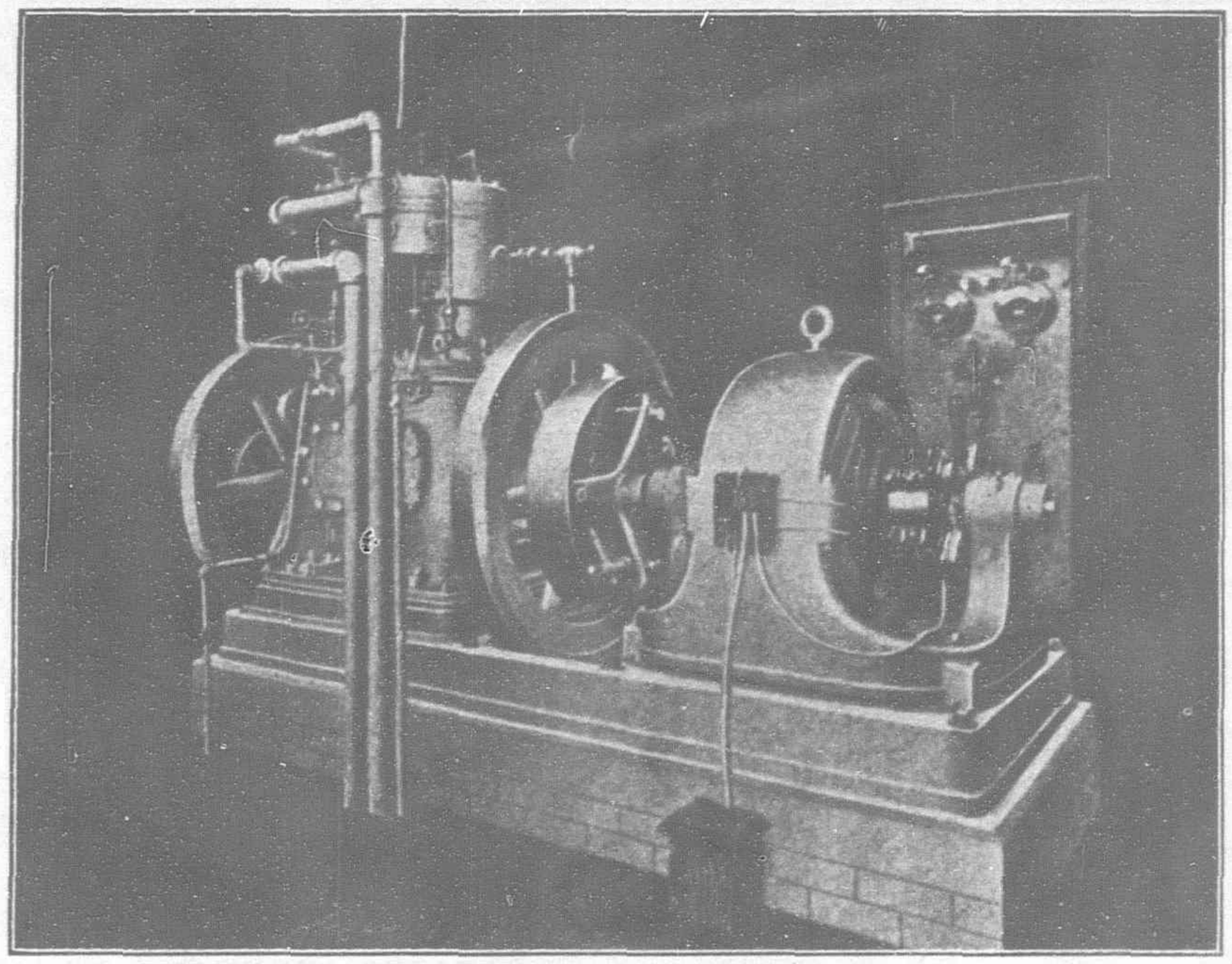

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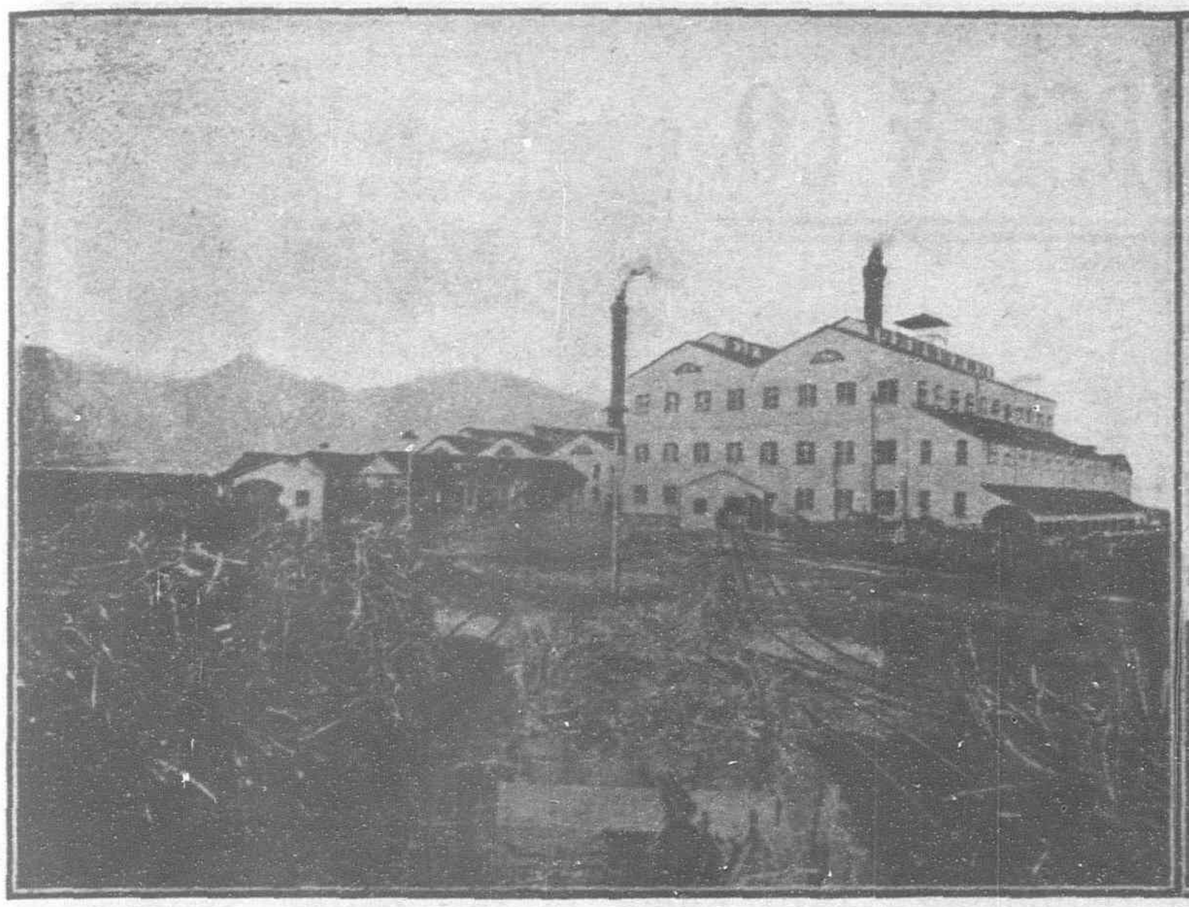

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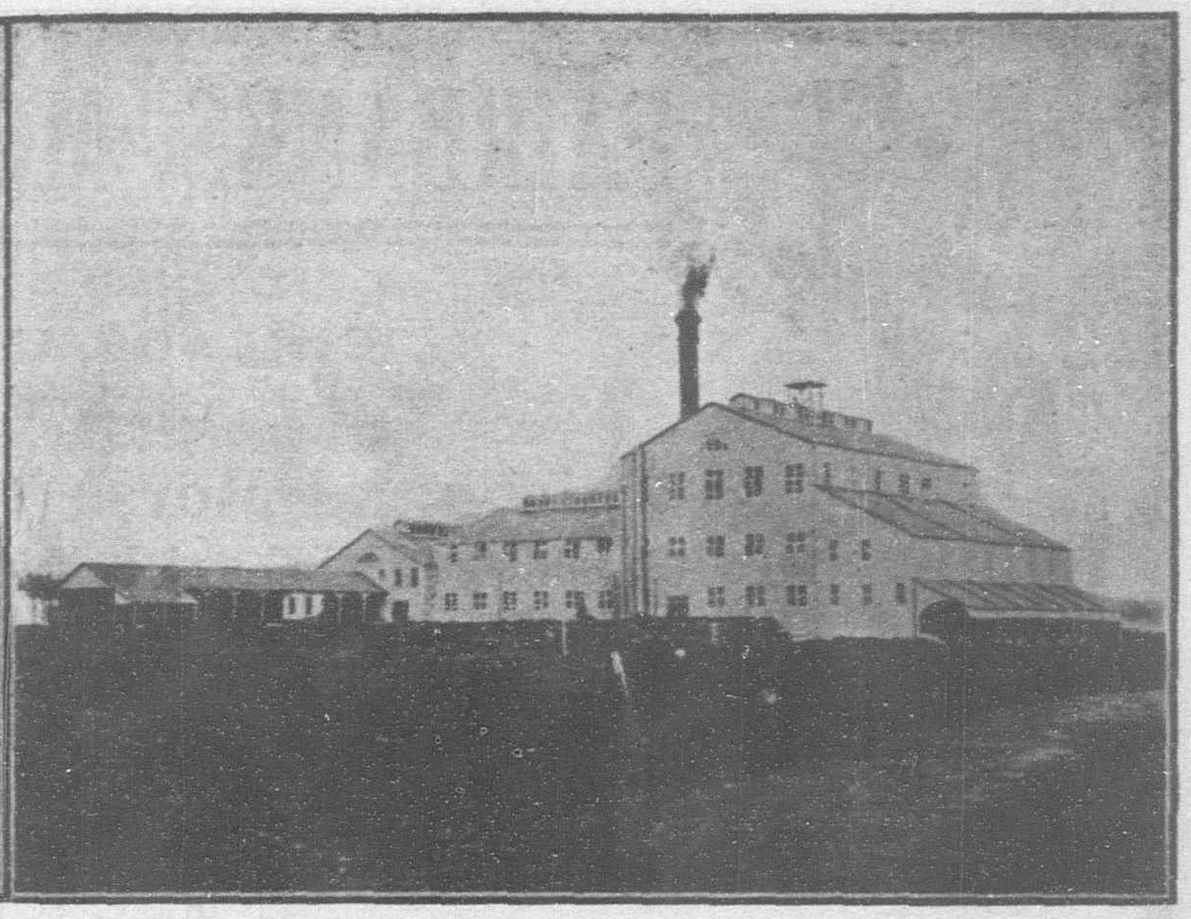

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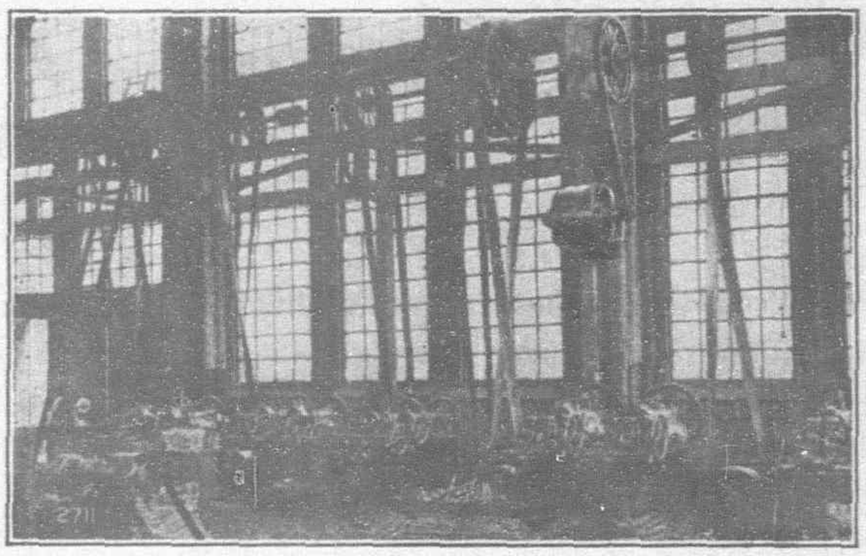

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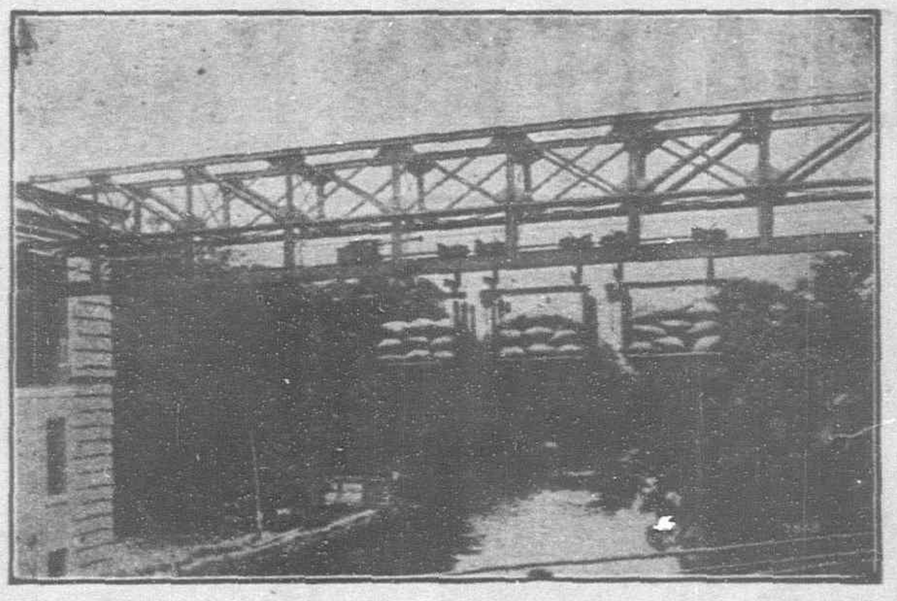

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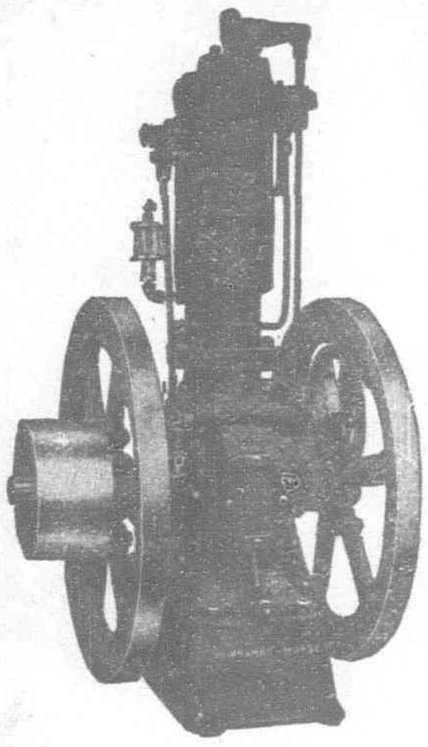

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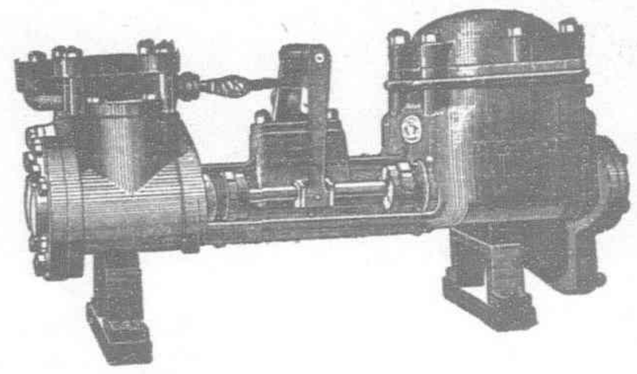

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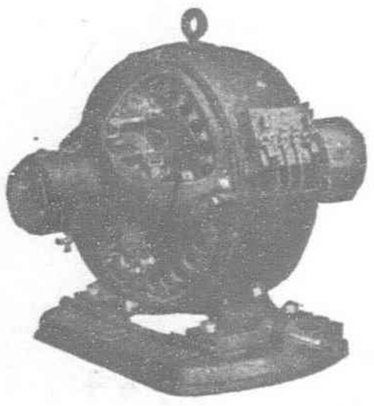

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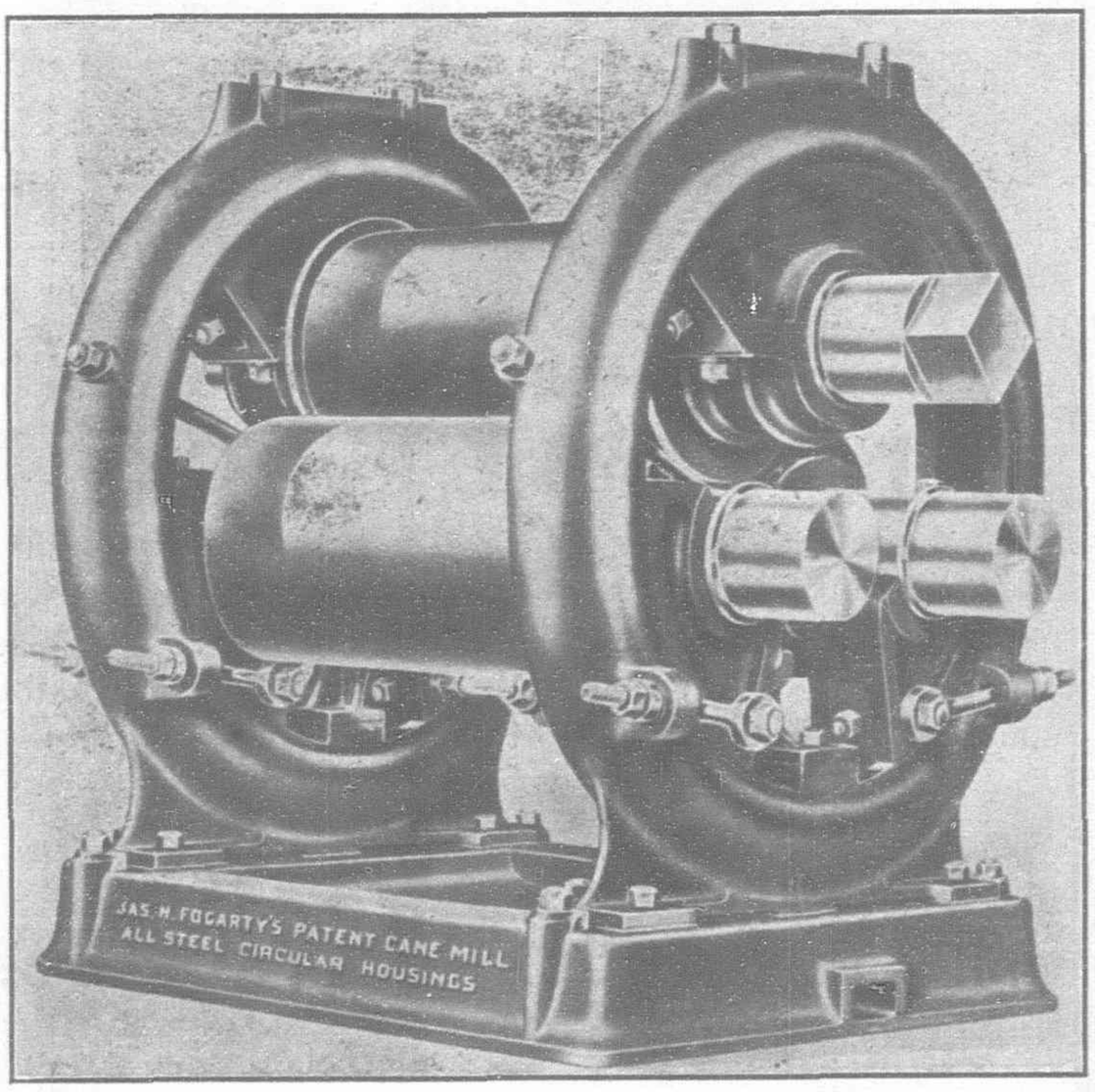

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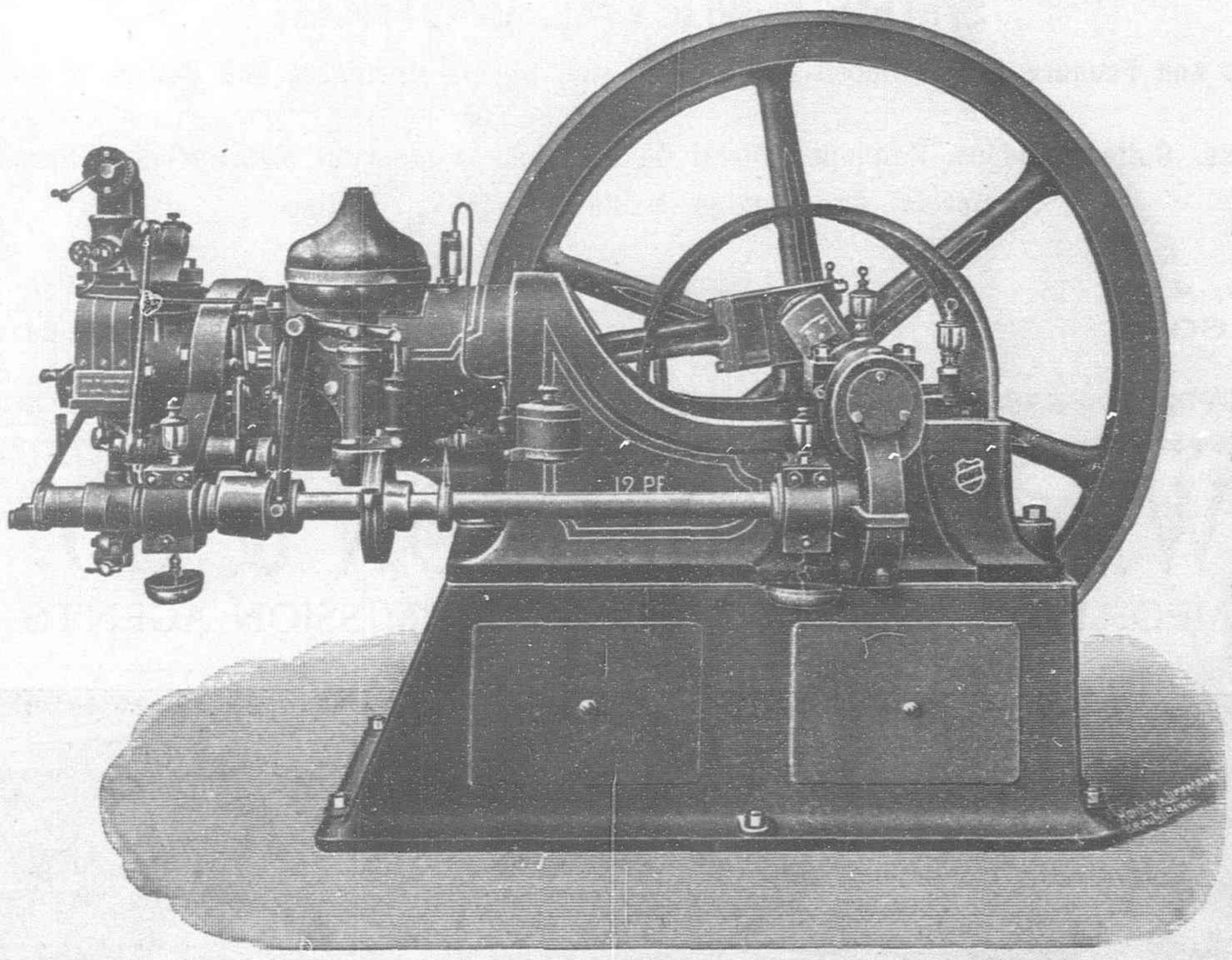

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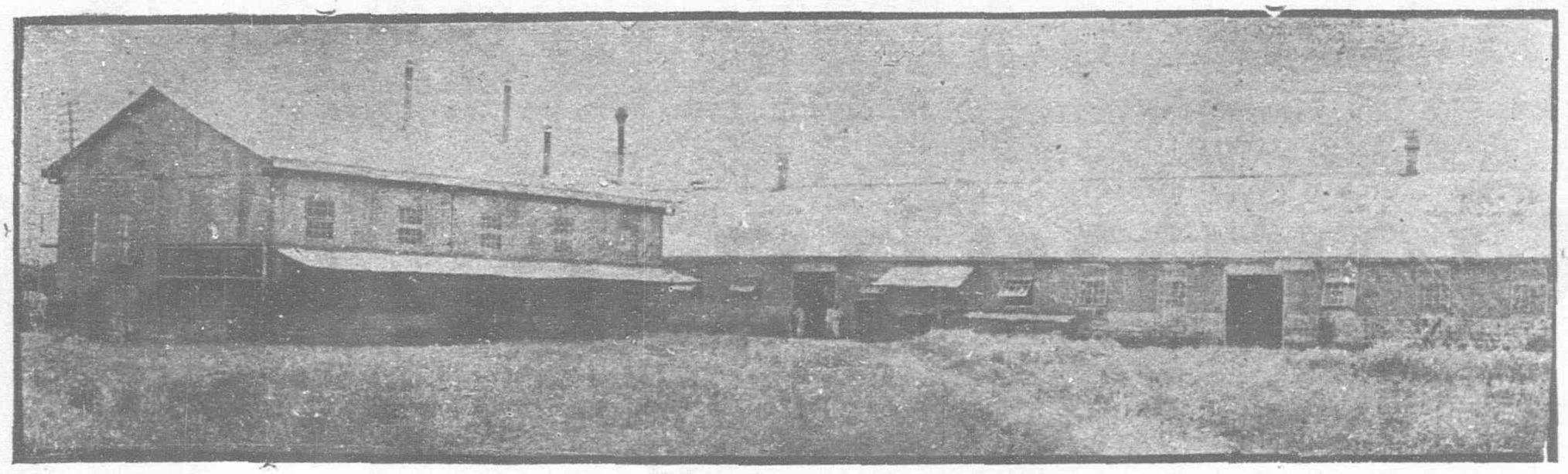

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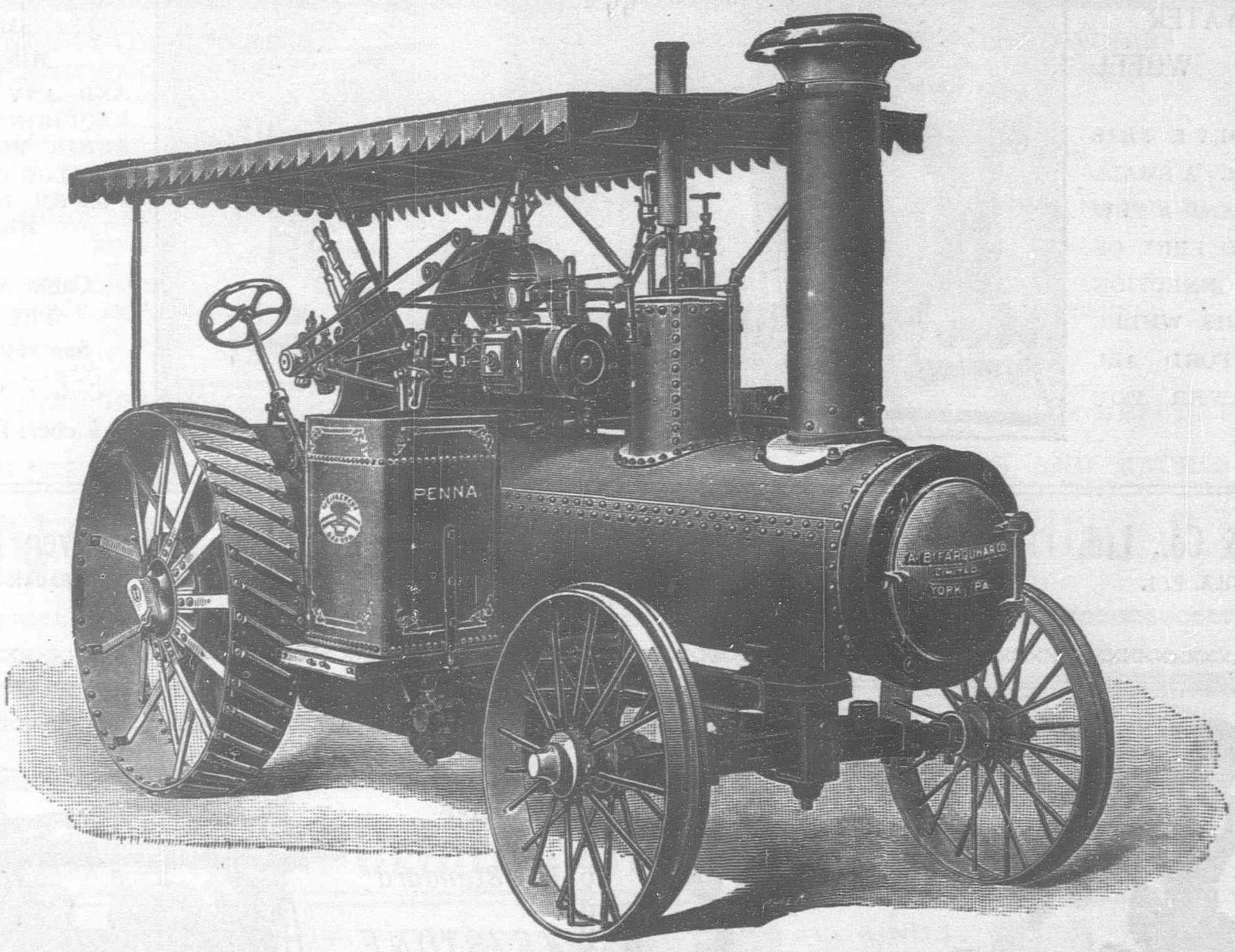

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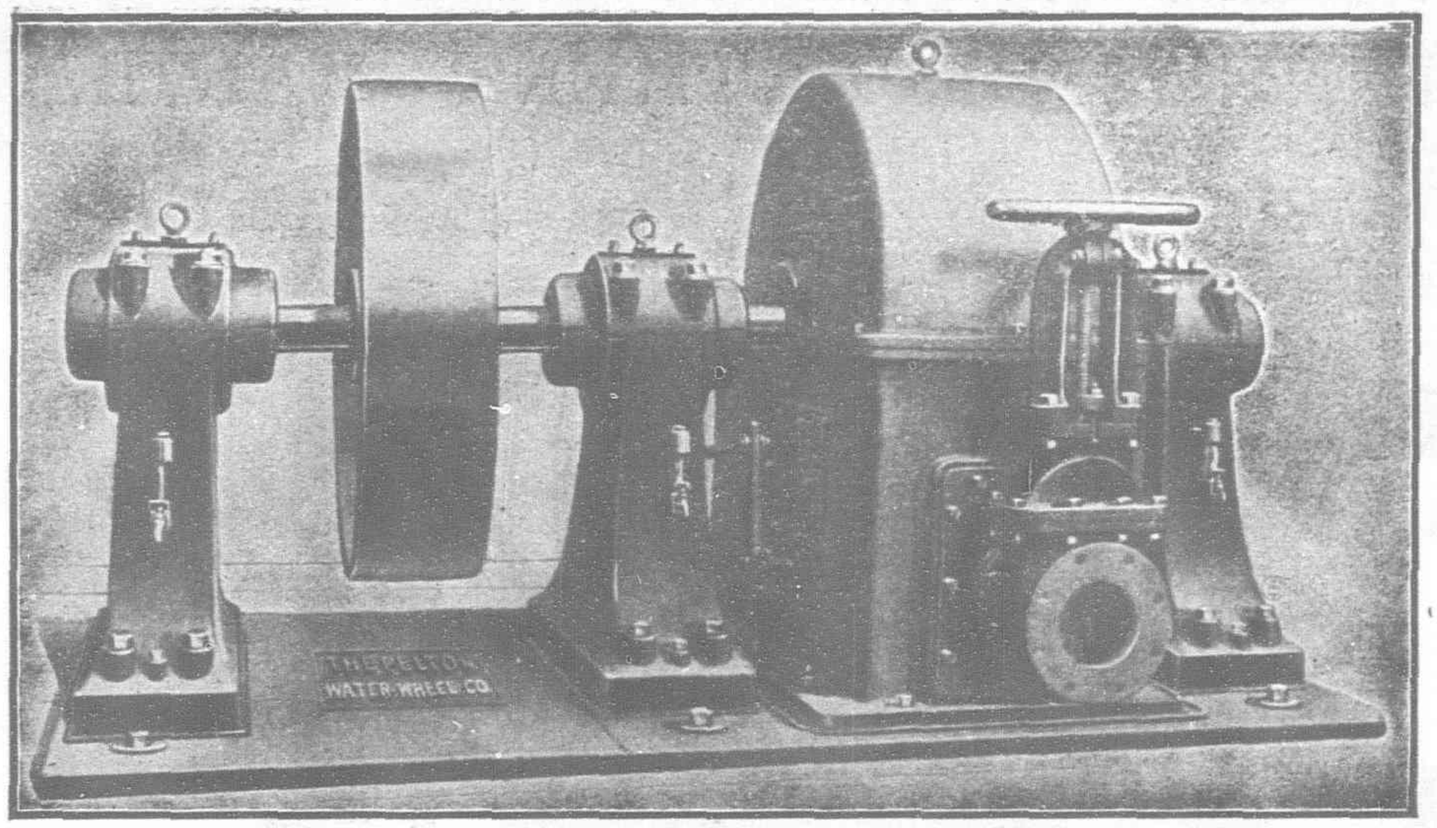

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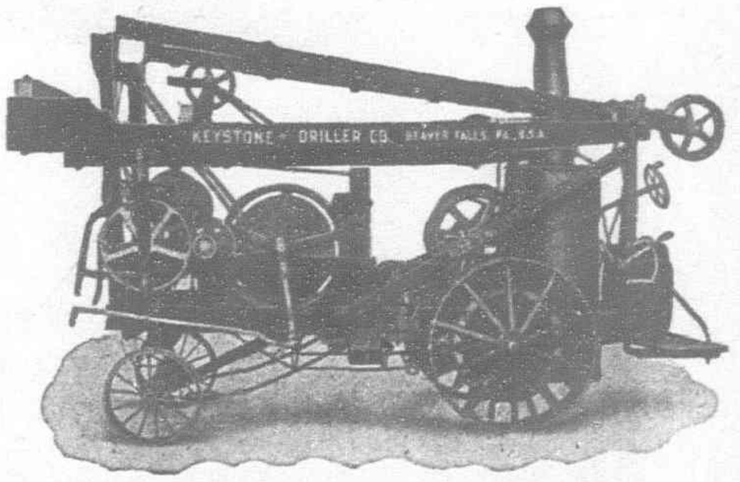

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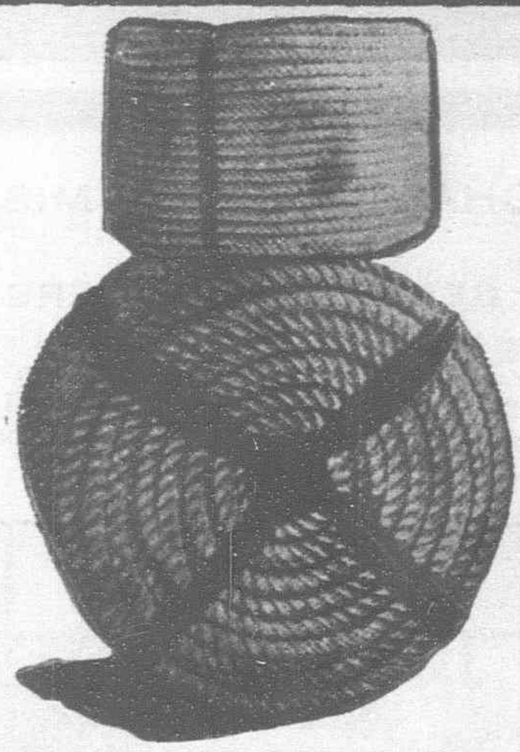

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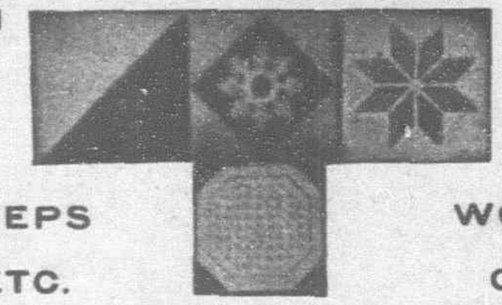

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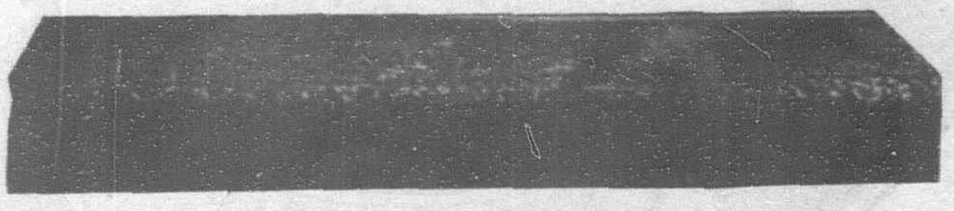

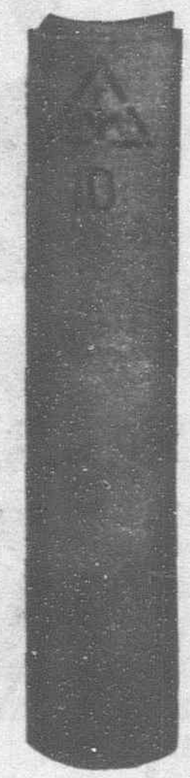

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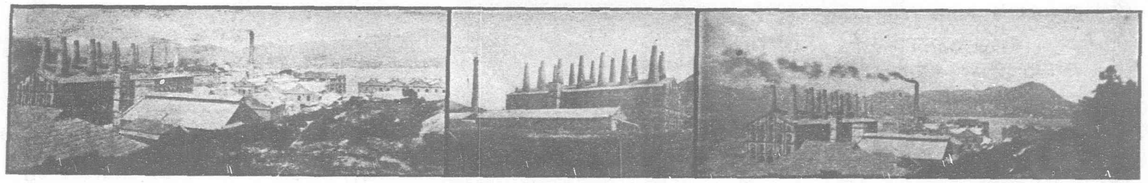

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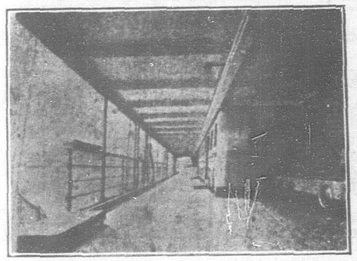

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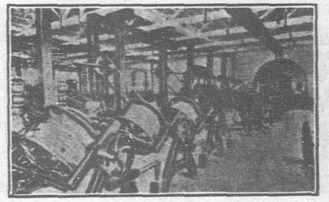

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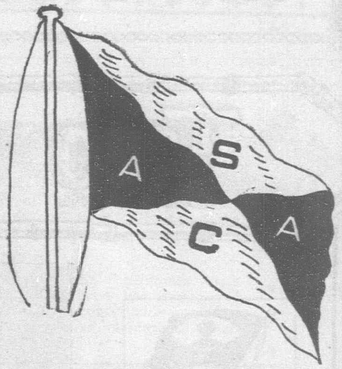

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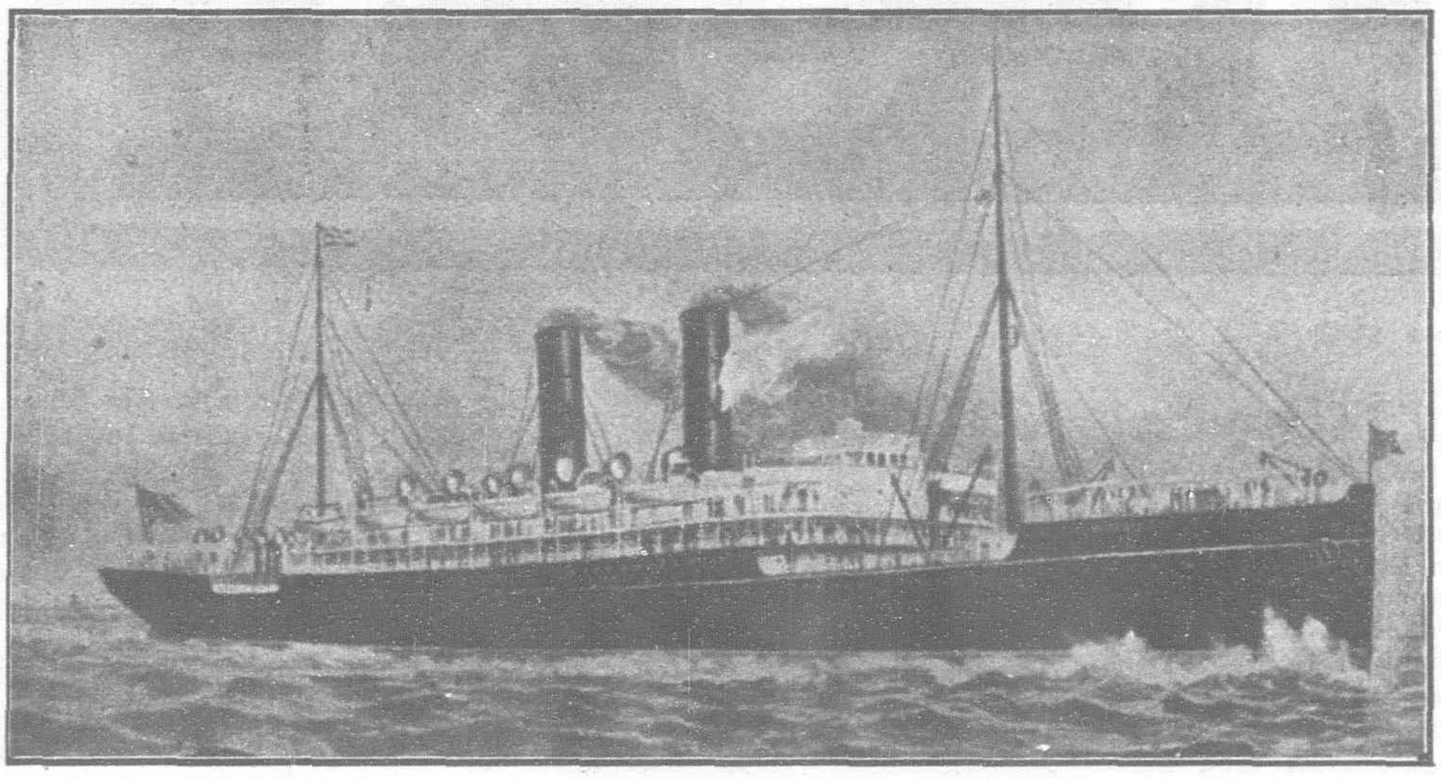

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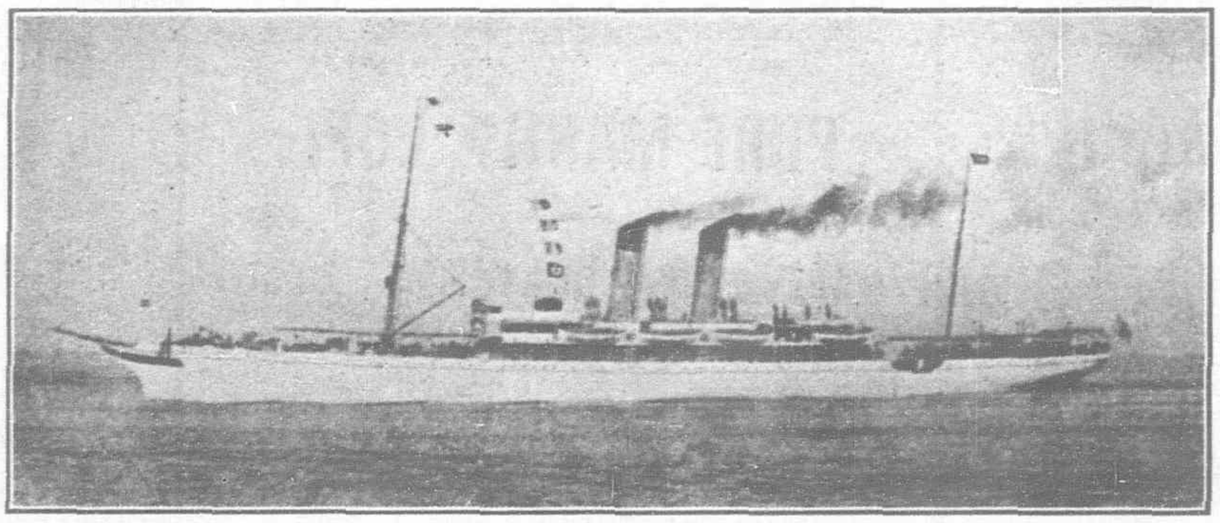

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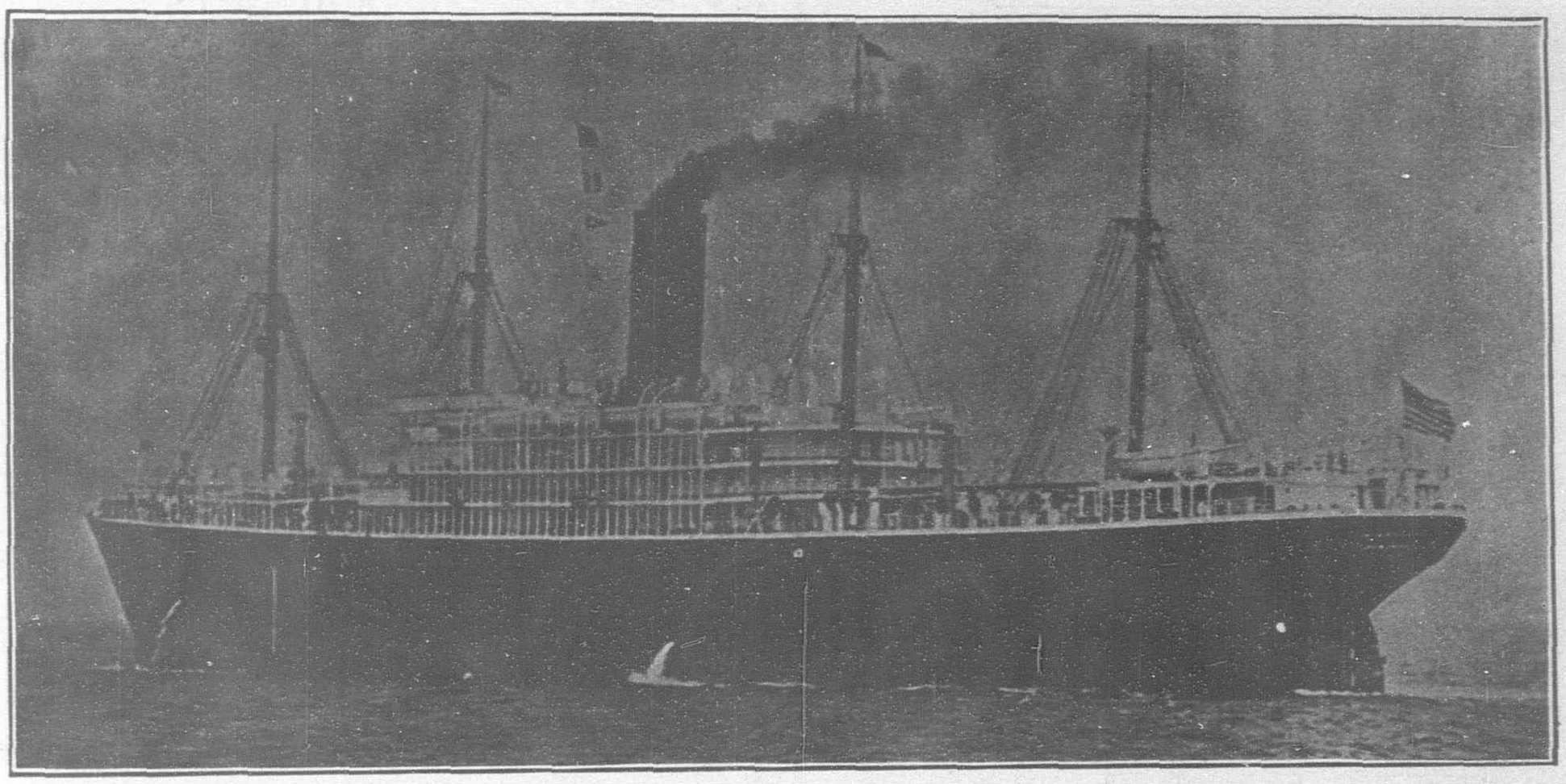

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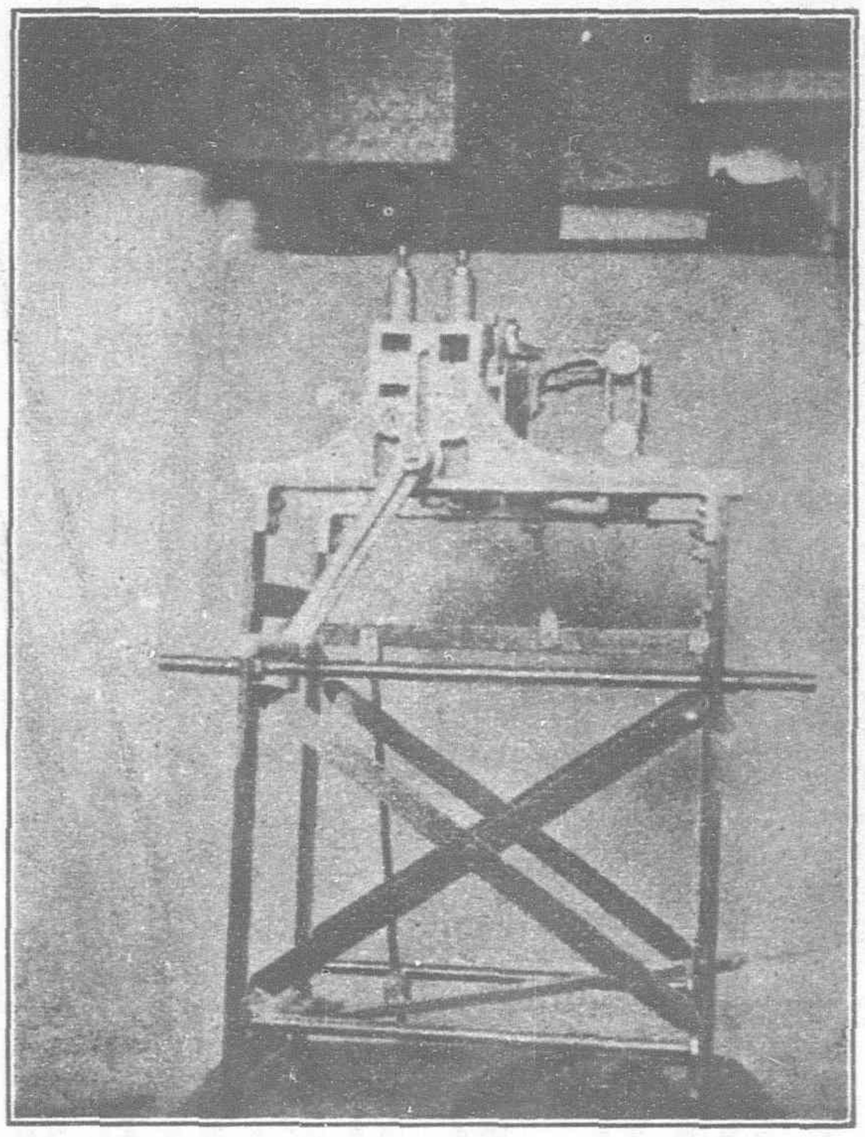

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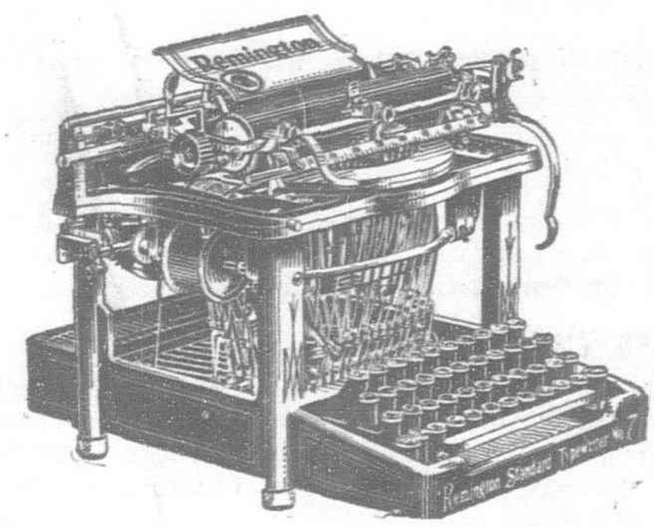

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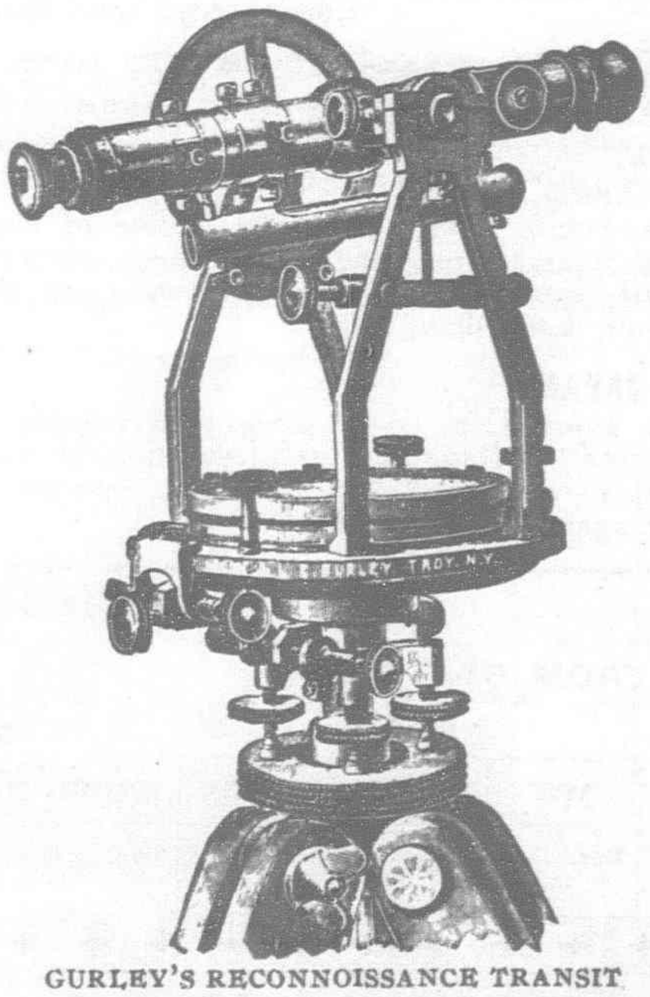

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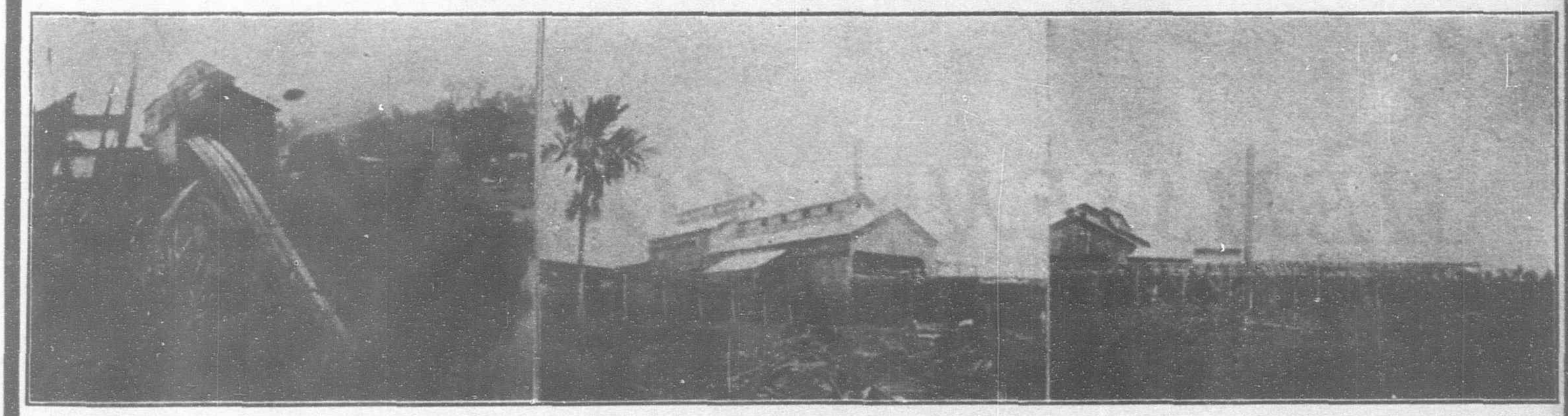

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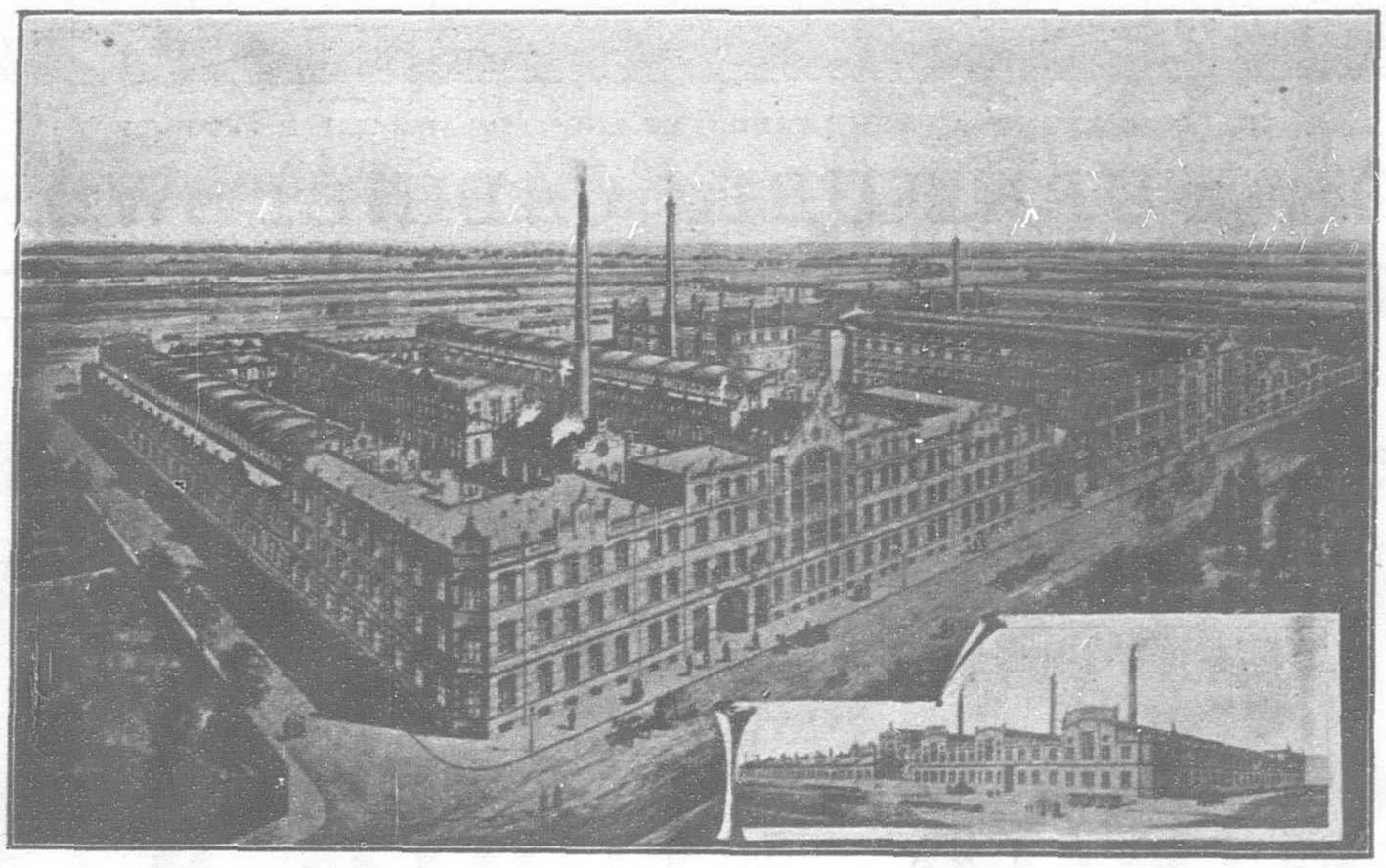

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Manila, P. I., August 20, 1907.

Sealed BIDS or PROPOSALS will be received until 12 m., January 15, 1908, for furnishing and installing electrically driven pumps and motors for the new sewer system in the City of Manila, Philippine Islands. There will be one main station and five substations, each equipped with two pumps and corresponding motors, or a total of twelve pumps and motors.

Each proposal must be accompanied by drawings, showing the general dimensions of the pumps and motors and of the foundations required for the same, and also a detailed description of the proposed installation.

All of the above work will be let as one contract and each proposal must be accompanied by a certified check for $5,000, United States currency, as a guaranty that the bidder, if awarded the contract, will, after due notification, enter into contract and furnish an acceptable Bond in the amount of 20 per cent of the sum total of the contract price for the faithful performance of the work.

Specifications, general plans, and blank forms of proposal may be obtained at the office of the Secretary of the Municipal Board, Manila, P. I., or from the Bureau of Insular Affairs, Washington, D. C.

The right is reserved to reject any or all bids.

JNO. M. TUTHER,
Secretary, Municipal Board.

J. F. CASE,
Chief Engineer.

NOTICE

The Advertisement of the TANJONG PAGAR DOCK BOARD WHICH APPEARS ON PAGE 4 OF THIS ISSUE should read.—NEW DOCK (IN PREPARATION) length 860′,—width at entrance 100,′—depth of water on sill, highest spring tides 35.′ The notice should also call attention to the fact that the Board has an average of 200,000 tons of coal in stock at the wharves, consisting of Cardiff, Japanese, Indian & Australian, etc.—Ed.

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A Pure Sparkling Mineral Table Water

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"It is ***Entirely Free from all Forms of Organic Contamination,*** and from microbes."

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"It is an ***Aerated Water of the Highest Quality,*** both from a manufacturing and sanitary point of view."

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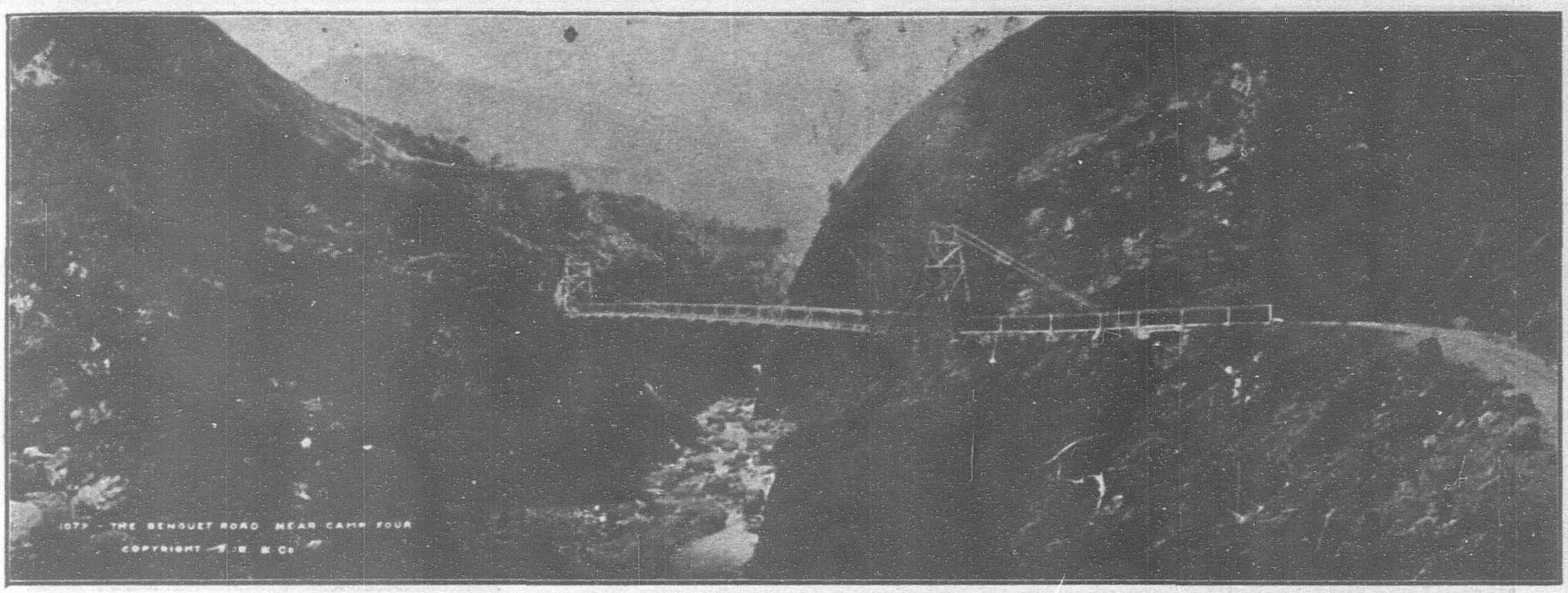

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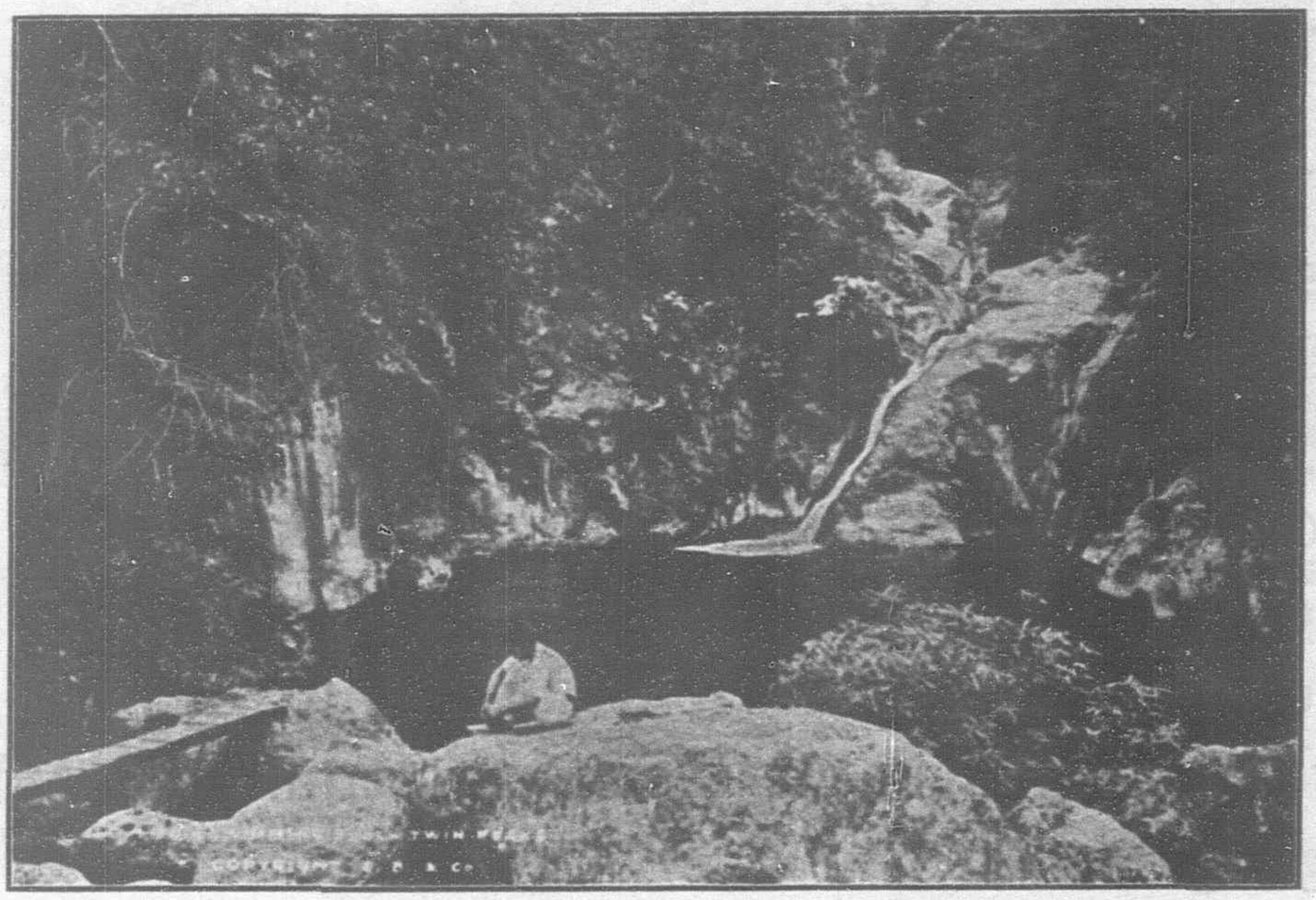

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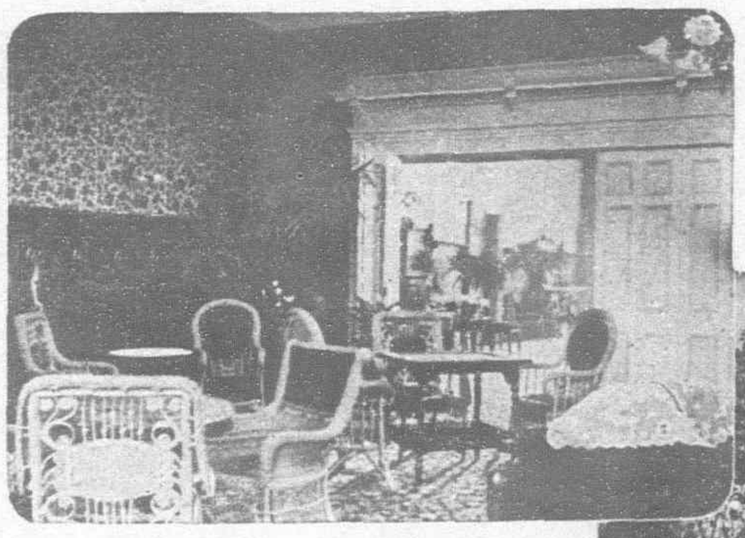

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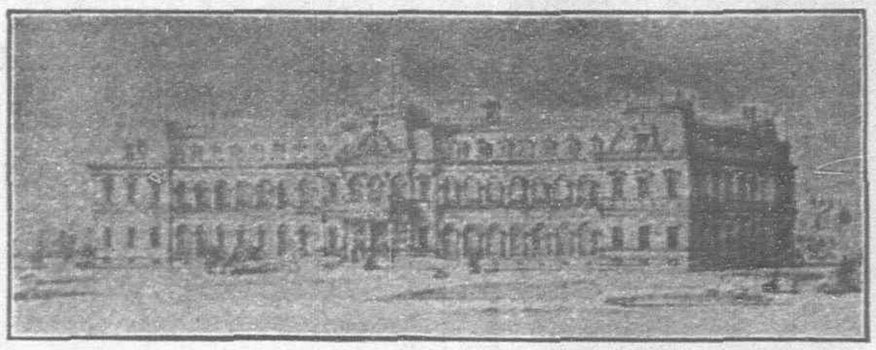

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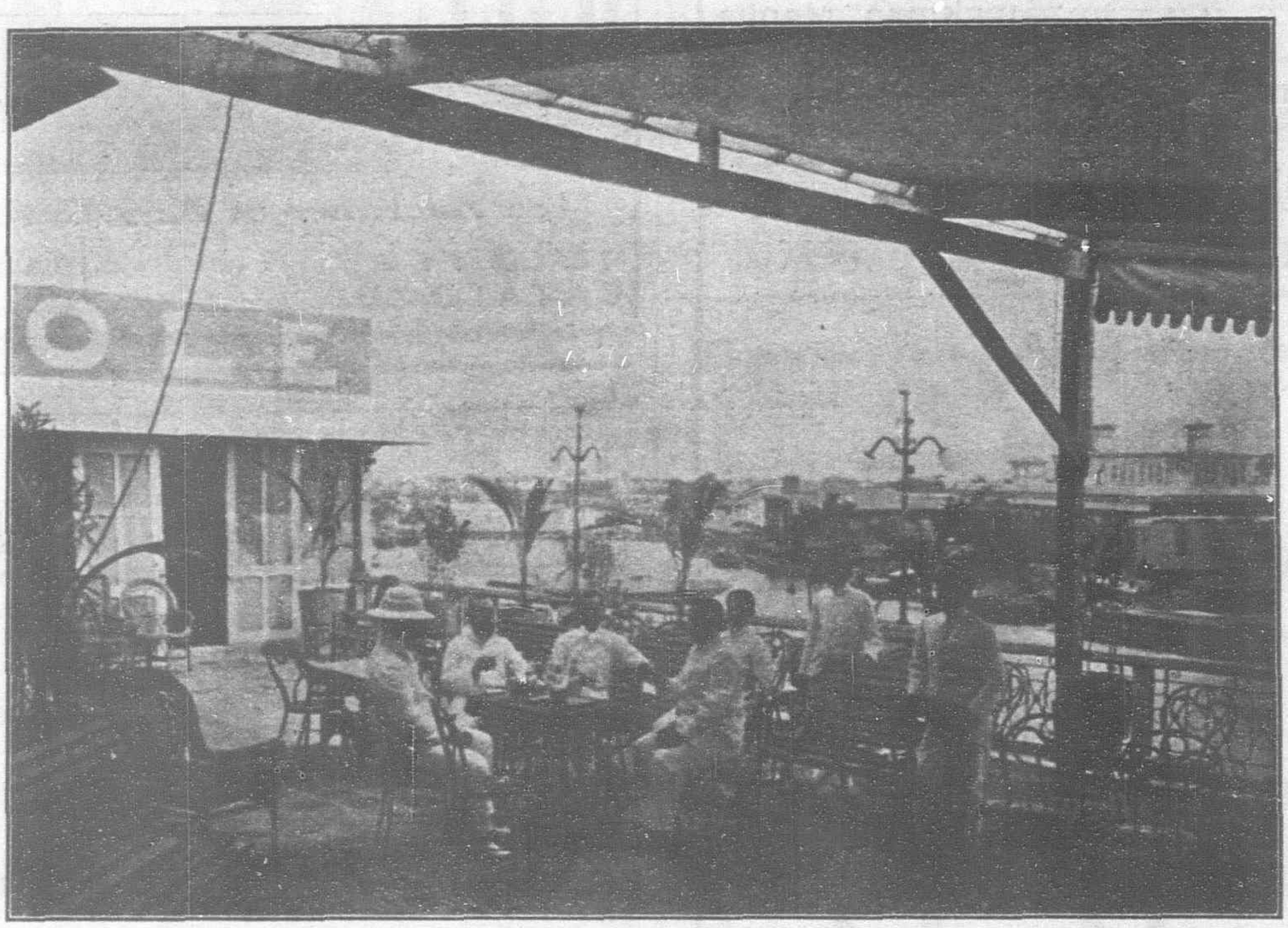

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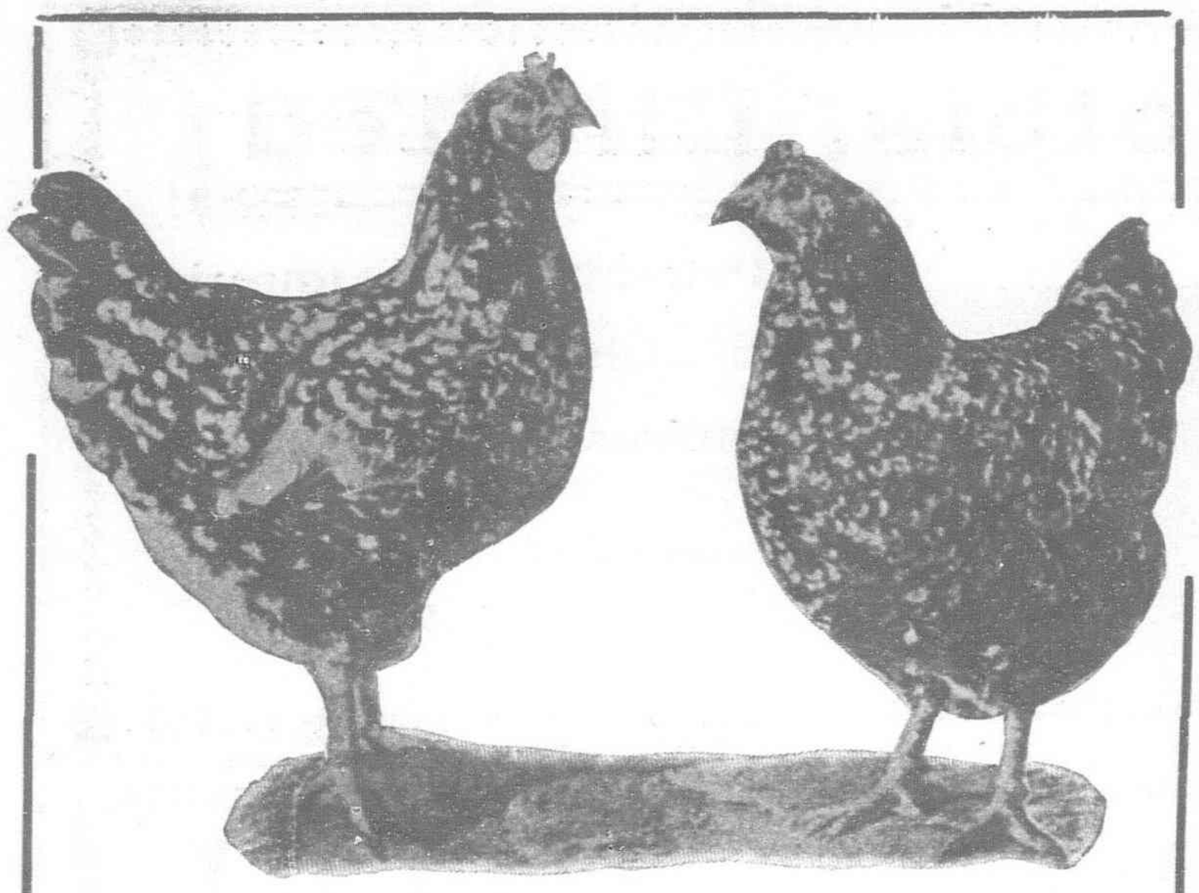

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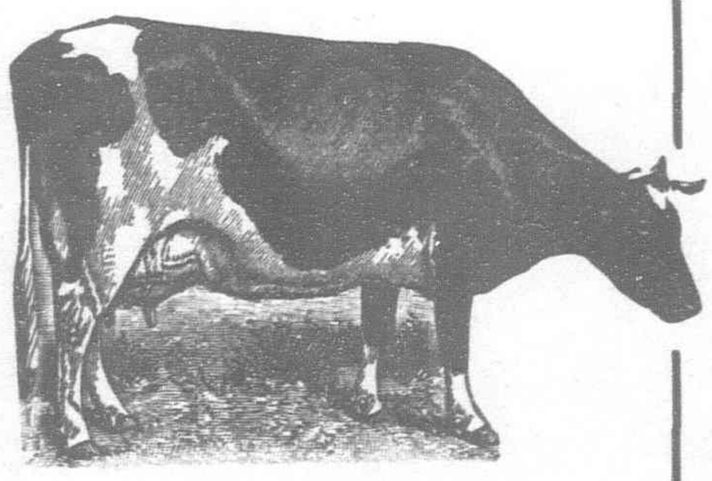

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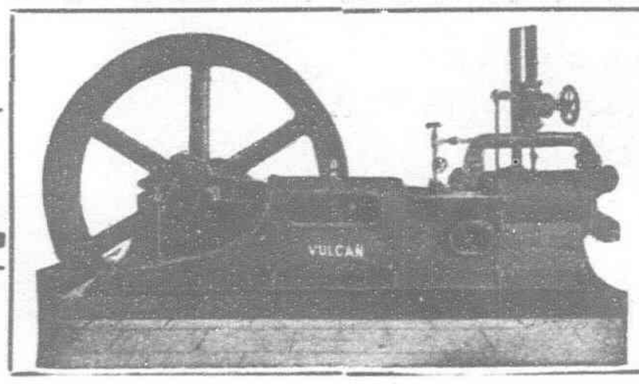
VUL  CAN

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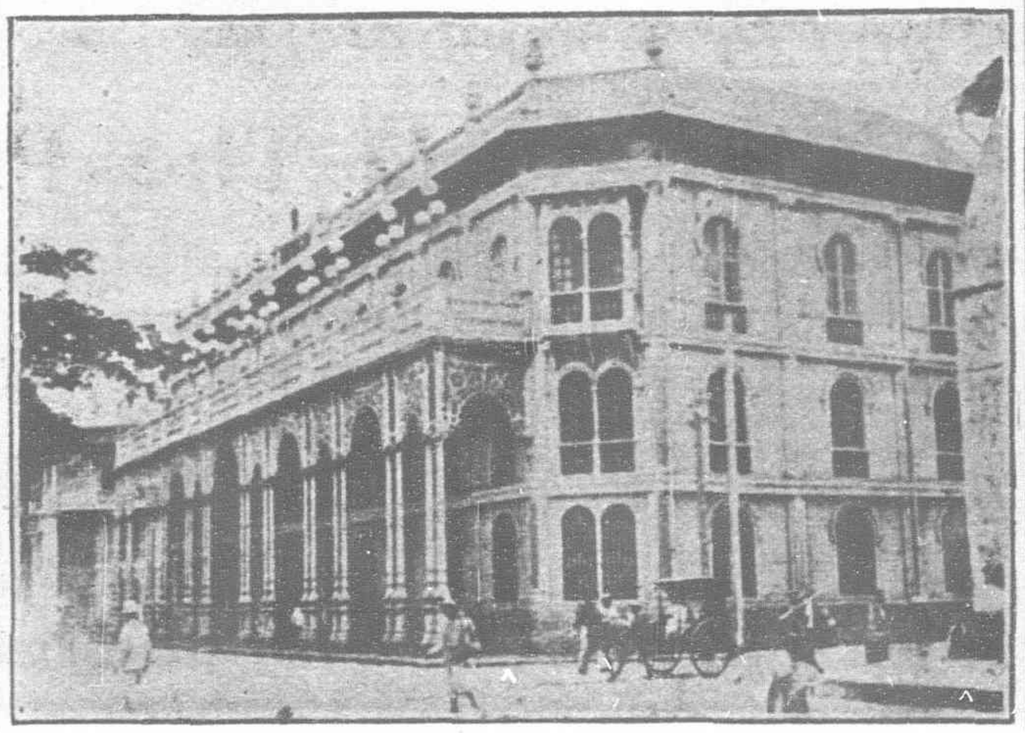

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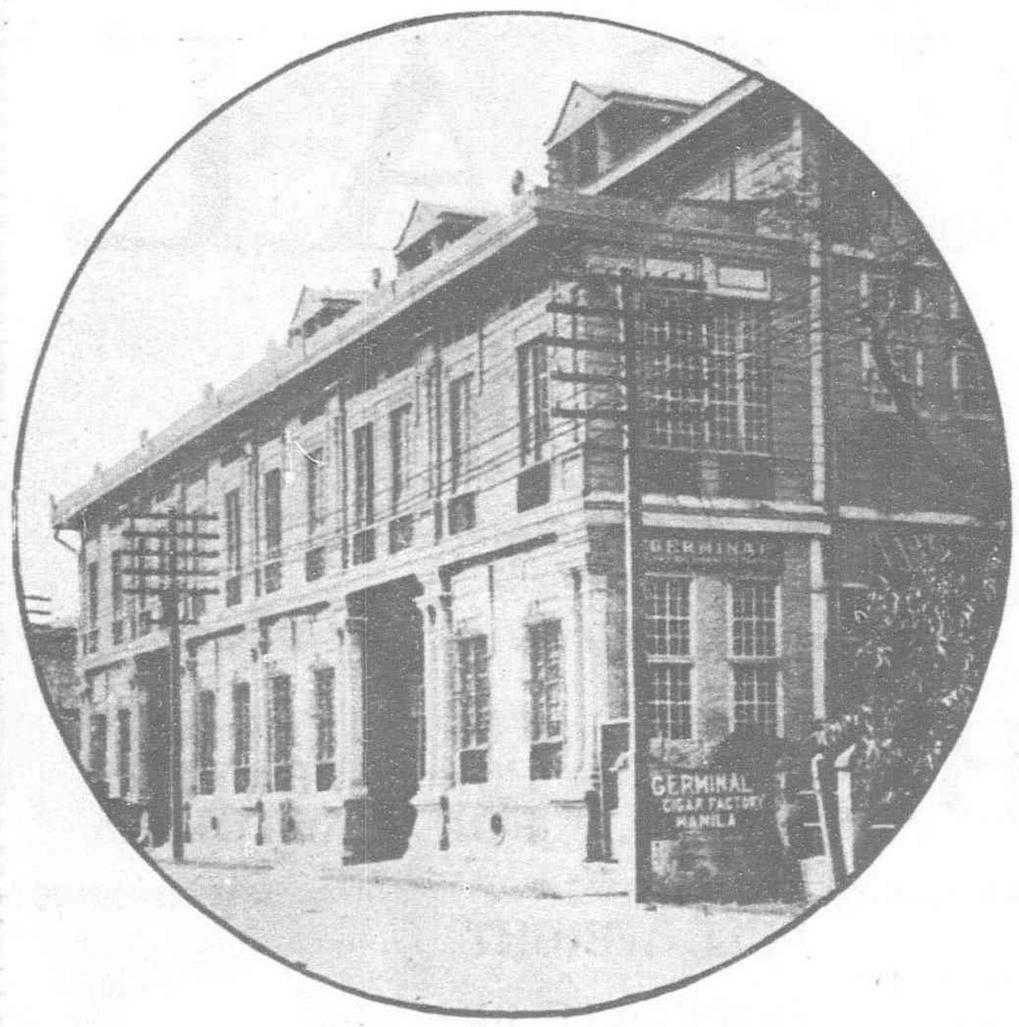

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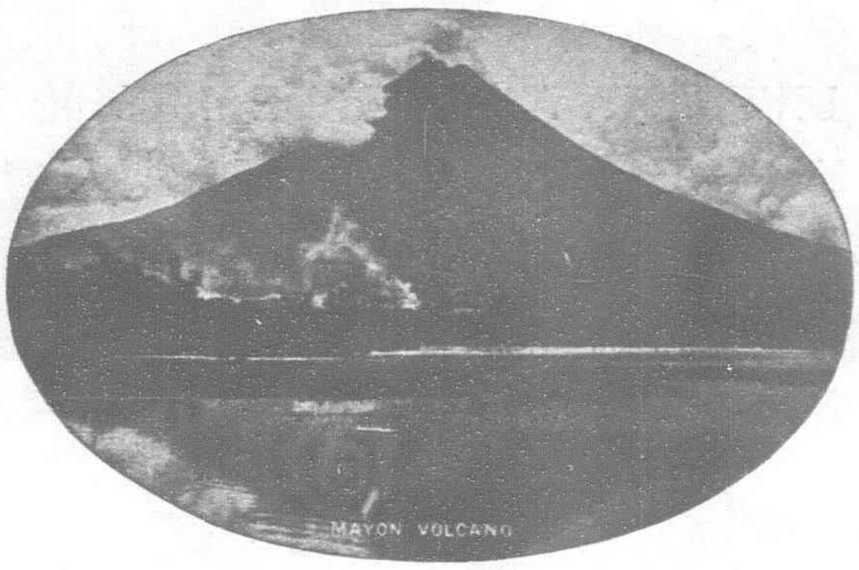
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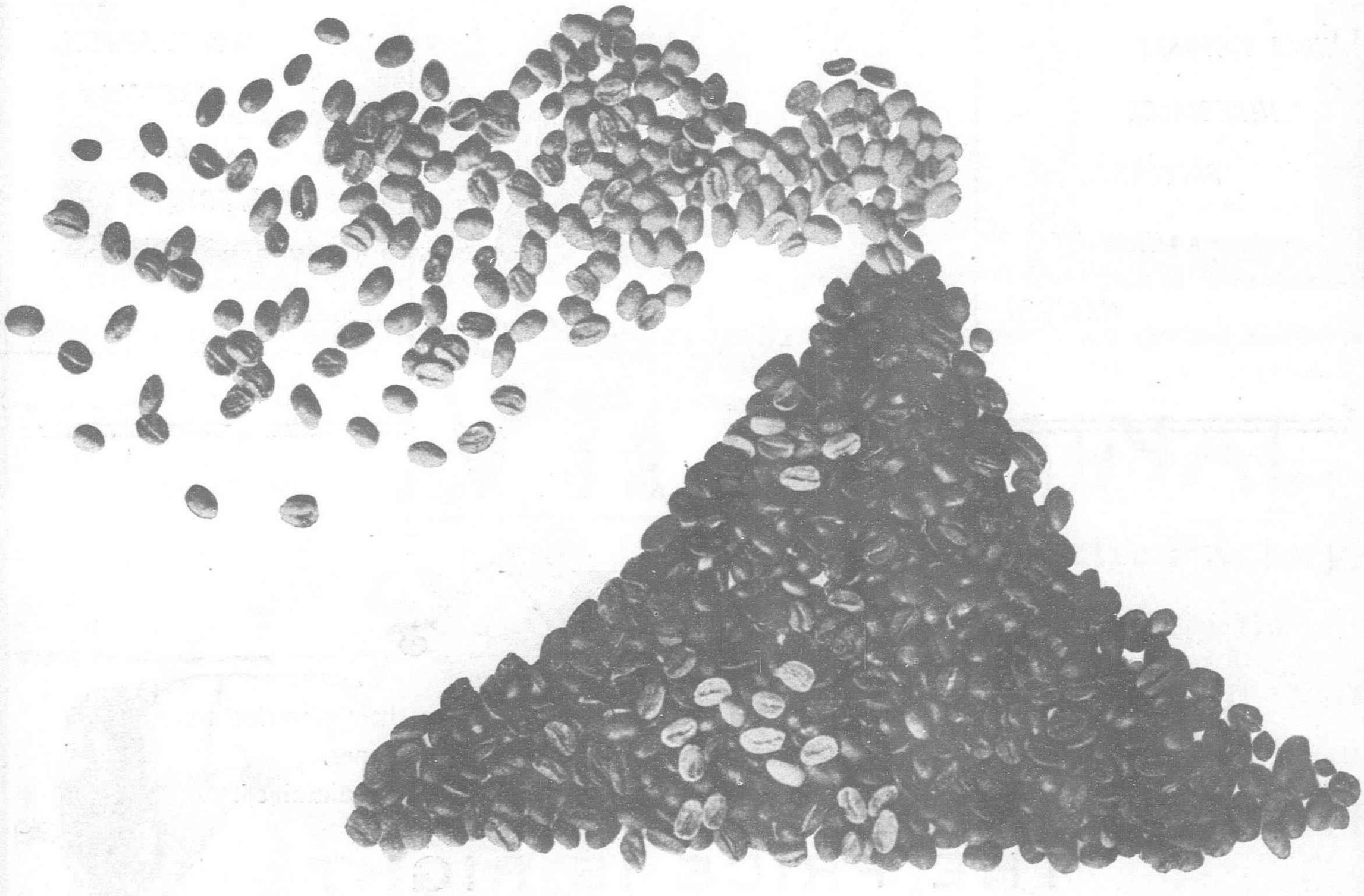

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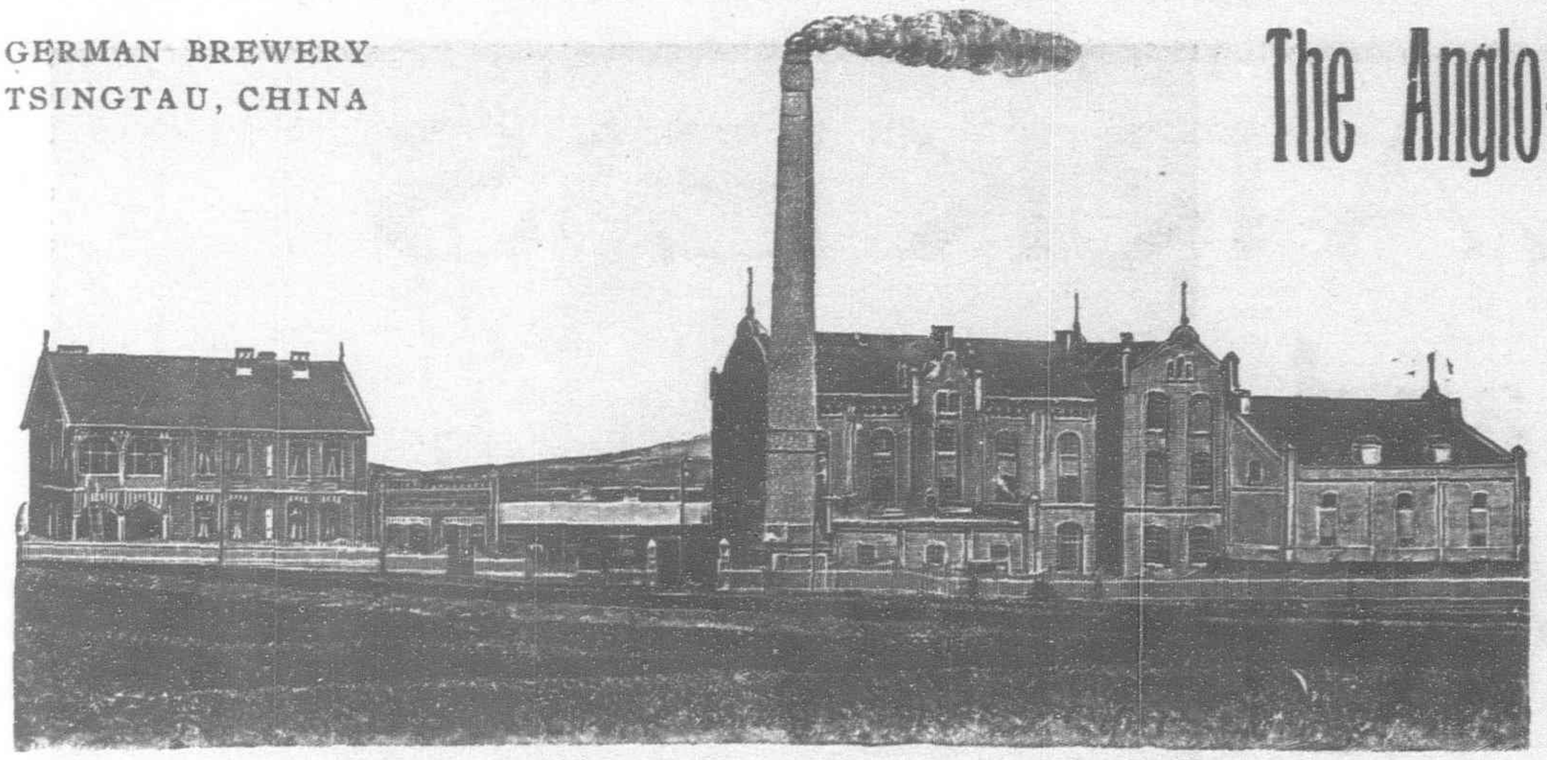

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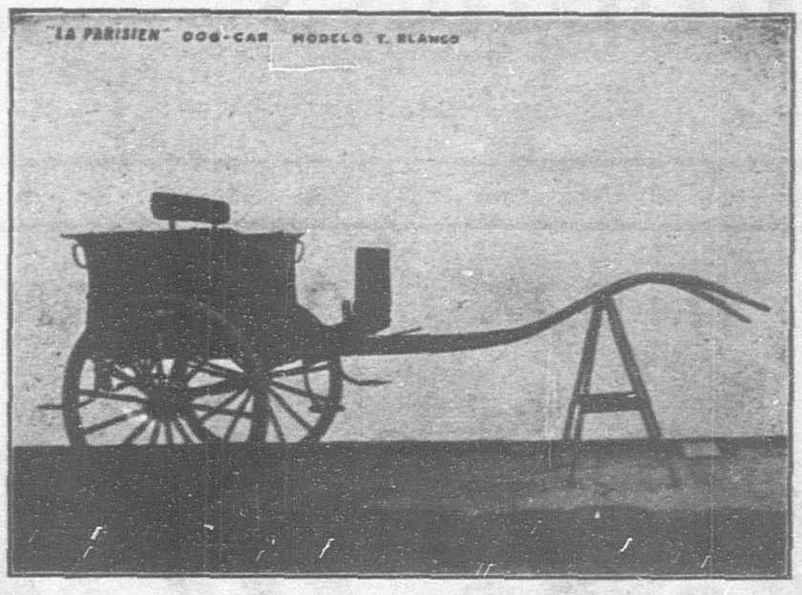

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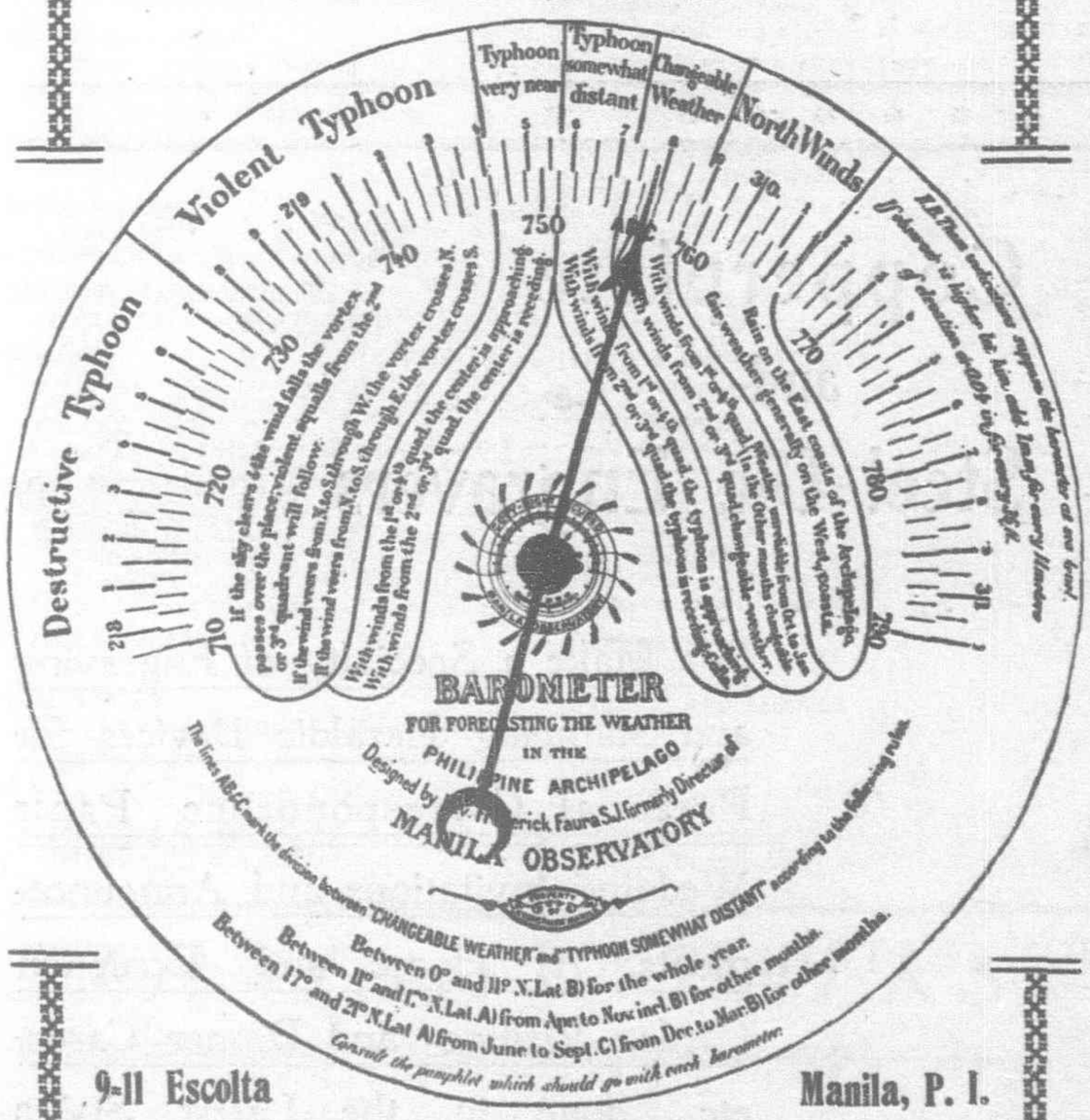

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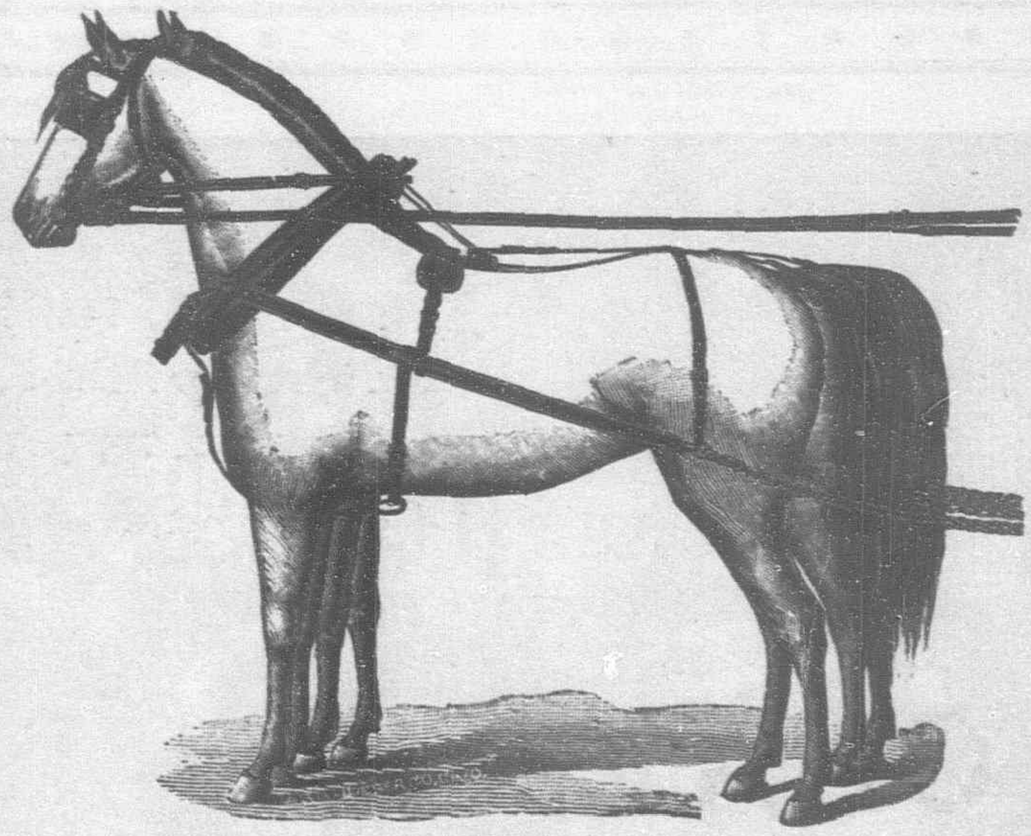

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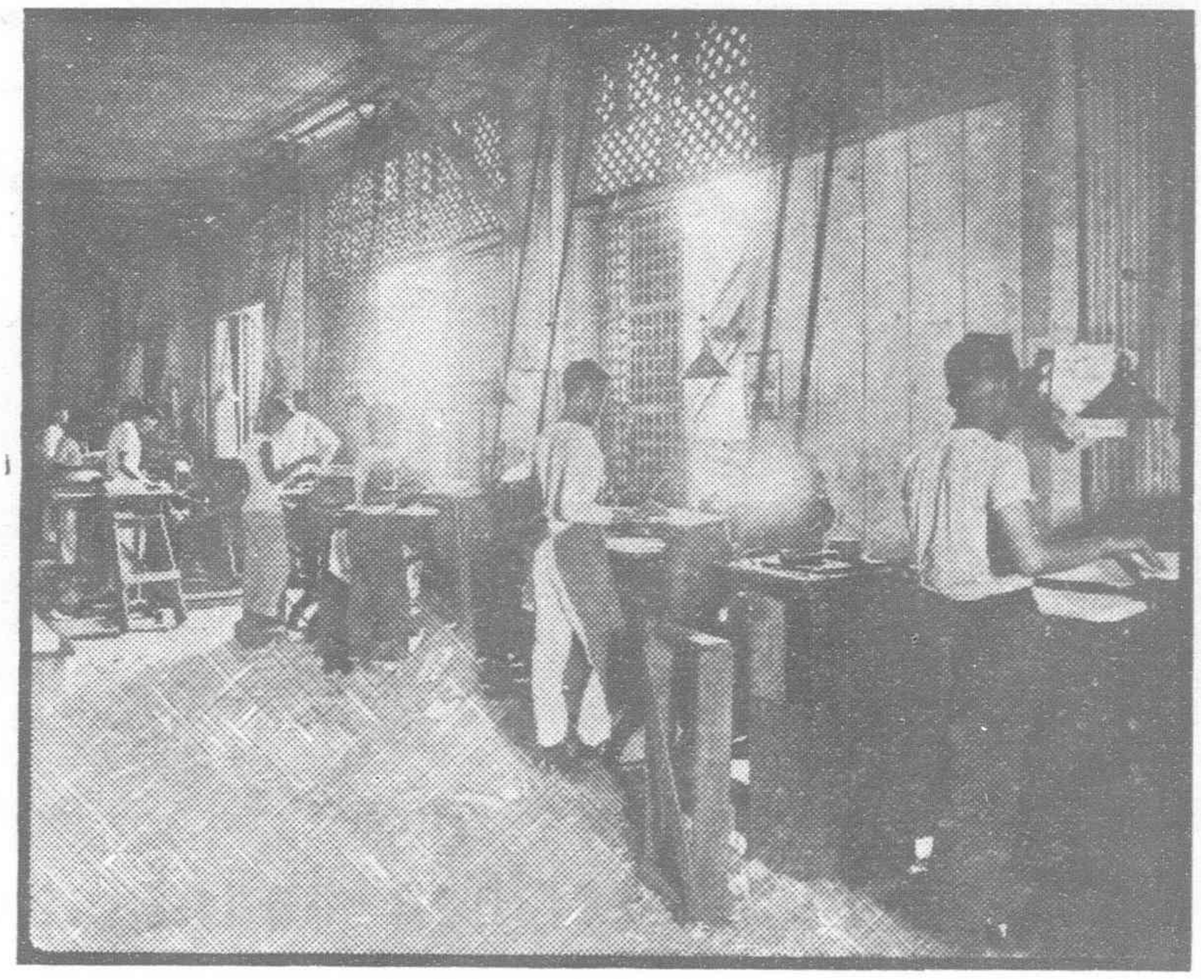

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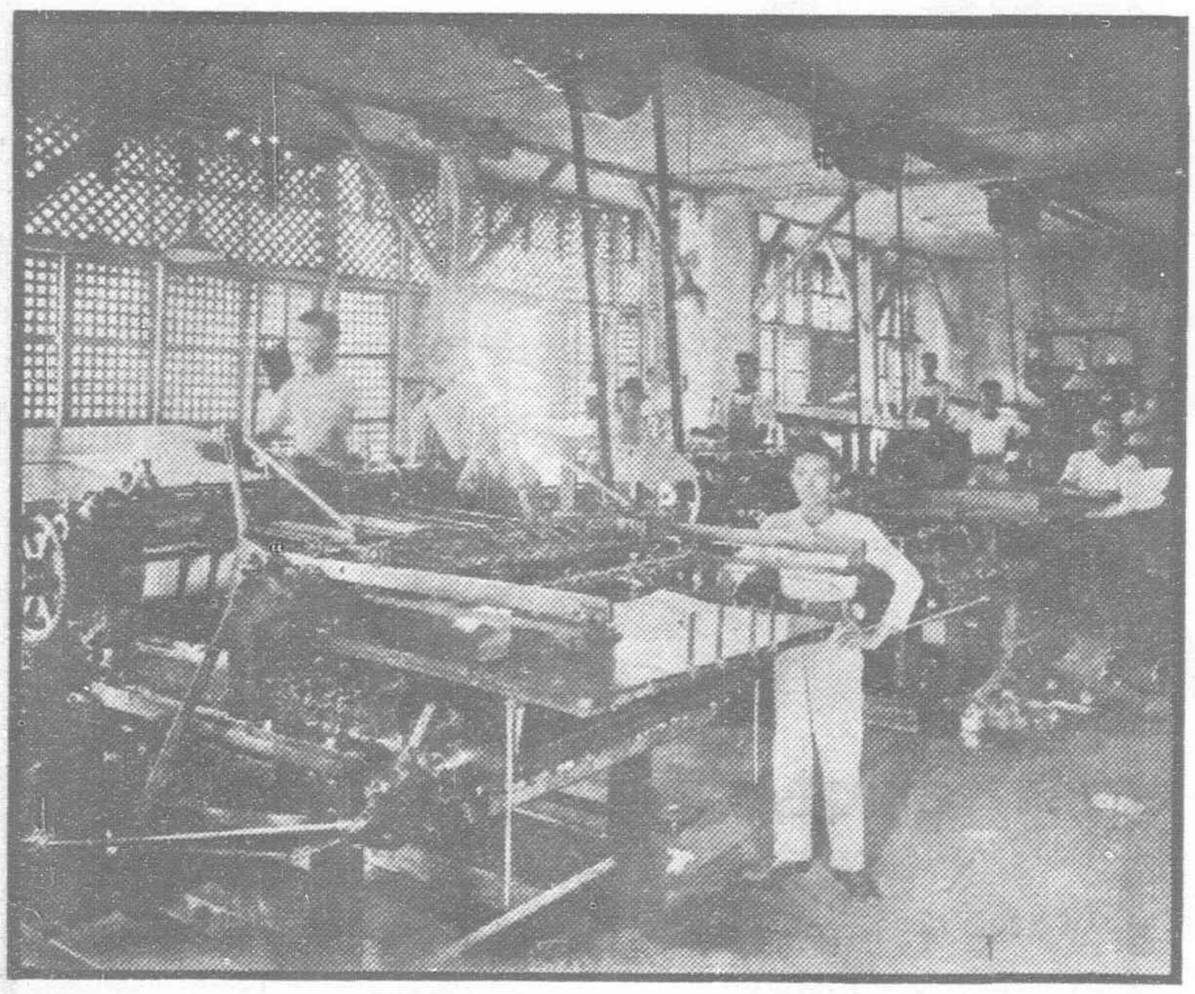

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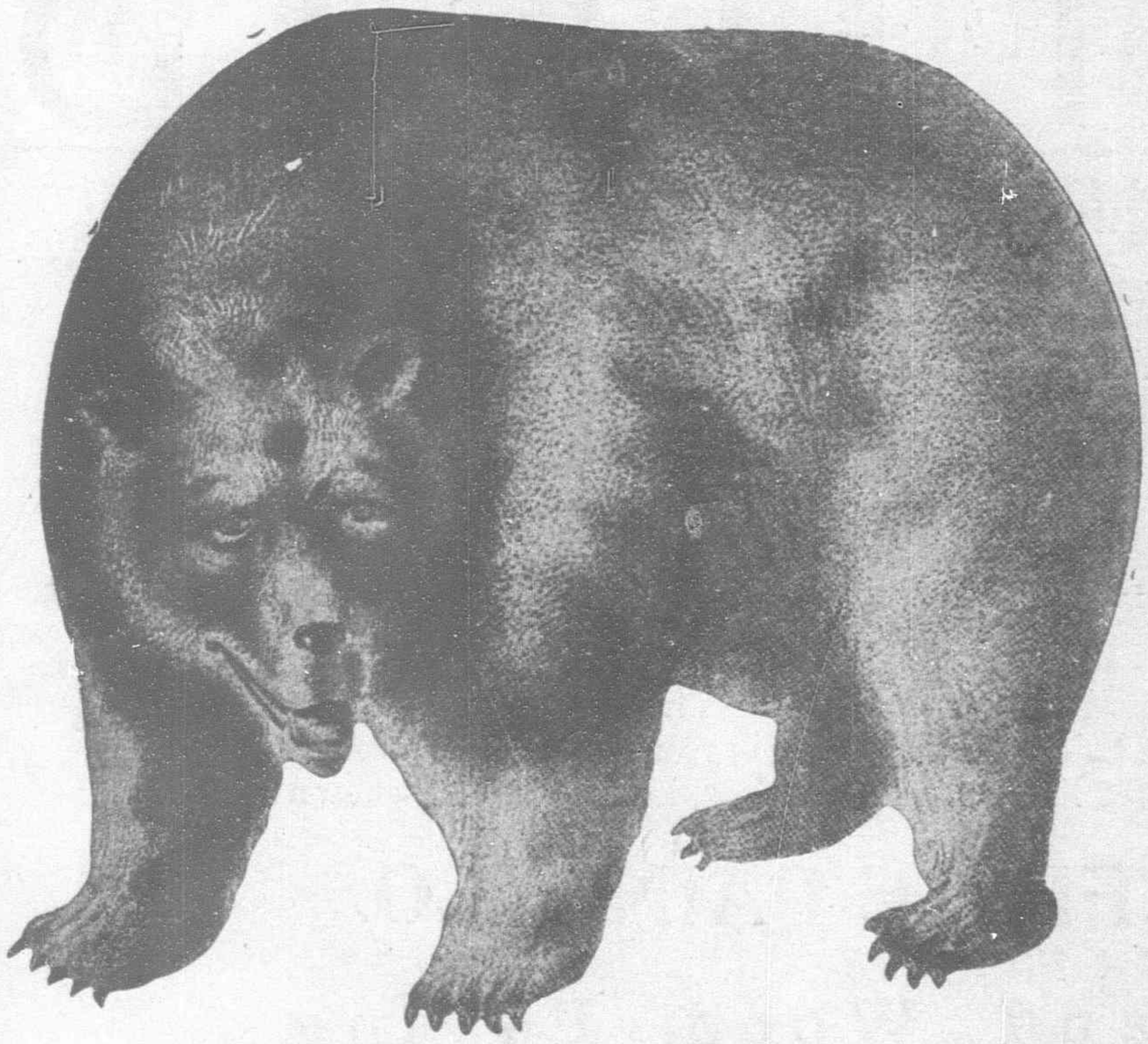

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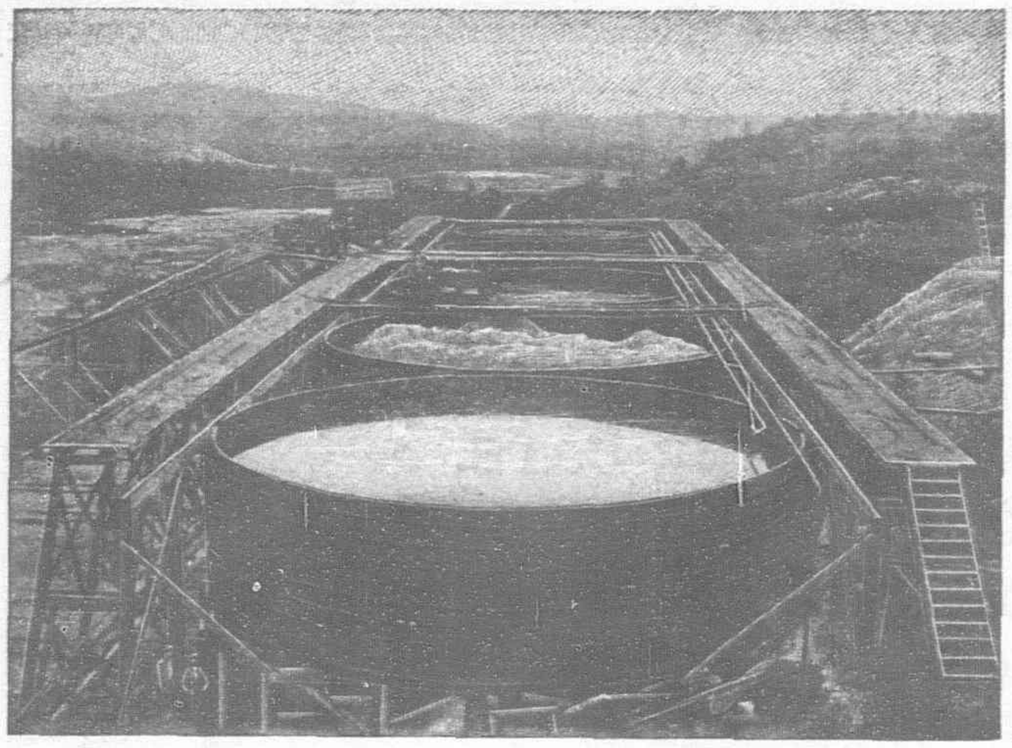

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COMMERCE ✠ ENGINEERING ✠ FINANCE

VOL. IV. MANILA, P. I., SHANGHAI, AND YOKOHAMA, NOVEMBER, 1907 No. 6.

His Excellency Sir FREDERICK LUGARD,
Governor of Hongkong

THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

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SUPPLYING A WAR

"Most modern wars may be ultimately traced to national antipathies which have been largely created by newspaper invectives and by the gross partiality of newspaper representations."—(Lecky's "England in the Eighteenth Century.")

And so the Spanish-American war was brought about. The cumulative effect of the downright lies, calumnies, exaggerated representations and distorted facts of the situation in Cuba, as presented by the yellow journals, was the creation of a national antipathy to Spain, which led to the inevitable clash. Despite the warnings of fair minded correspondents, and the testimony of those few who actually witnessed the campaign from the inside, ignoring the statements of conservative businessmen, residents of the islands, and rejecting the repeated official utterances of the Spanish minister as biased and false, the American people formed their idea of Spain and Cuba from the trash hashed up by the Hearsts and their imitators. And the climax came when the American troops landed in Cuba and for the first time had the opportunity of judging for themselves. The revulsion of feeling which took place there has never been eradicated. Then the army found out the truth, and the feeling of hostility to the Spaniards changed to one of friendly sympathy.

And now ten years later, history is repeating itself. The persistent writings of the same journals are slowly working up a race feeling which sooner or later must strain to the breaking point the friendly relations existing between Japan and the United States. Since the termination of hostilities between Japan and Russia, influences have been working, fomenting a spirit of discord between the Occident and the Orient. The labor troubles in San Francisco, Seattle, Bellingham and Vancouver have been exaggerated and worked up to meet the editorial policy of the yellow press bent on stirring up further trouble. Not alone in the United States, but in Japan and in Europe have the sensation mongers been at work. To use the vernacular, a section of the European press has "passed the buck up" to the United States and is doing its best to force America's hand.

And so the game goes merrily on. The versatile and impressionable scribes of all nations and especially of the American yellows, are exhausting their vocabulary in describing the hallucinations of their minds the morning after. Every insignificant incident is exaggerated into an important event and the opinion of every globe-trotter who has passed through Japan is seized on as the basis for a story.

If past events are any criterion America and Japan are rapidly being swept into a position from which the strongest ties of friendship cannot extricate them. The same mendacious, brazen journalism which published the unfounded and purely imaginary reports of atrocities from correspondents who never set foot on the soil of Cuba and inflamed the passions of the country against Spain, is again at work and the peace of two nations is threatened.

The provocation for any serious break in the relations is lacking. The cause does not exist. But this fact does not worry the war promoters, who fabricate and supply the necessary casus belli and the "dope" to fire the jingo's heart. Red hot articles that sizzle with the fervor of patriotism and defend the cause of the poor, down trodden white laborer, threatened with extinction by the wily Japanese are written by the yard. Although the emphatic utterances of Secretary Taft, speaking for the administration, clearly outline the policy of the United States, and despite the repeated assurances of the highest Japanese diplomats that their government desires peace to develop its interests in Korea and Manchuria, the war alarmists insist that the opposite is the case, and that both countries are hiding their real sentiments.

To turn from the serious statements of the highest authorities of both countries having the peace and the welfare of their respective peoples at heart, and accept the braggart and false reports of irresponsible writers is a folly which will pave the road to an unpleasant and disastrous climax.

FAR EASTERN RAILWAY CONSTRUCTION

The development of Eastern Asia may be measured by its railways, and, this being true, indications of activity in construction in every progressive section warrant the conclusion that the year 1908 will prove one of most unusual activity in development in the history of the Orient.

From Siberia to India we hear of hundreds of miles of railway lines under construction or projected and if the West is not hurrying the East somewhat, then evidences are deceptive.

Japan has concluded the gigantic task of nationalizing her railways, including under government control 18 lines with a mileage of 4,809 miles. Last year the Japanese government appropriated yen 138,830,000 and the estimates for the coming year will reach yen 29,900,000,000 which covers the purchase and doubling of the old lines and the construction of over 1,000 miles additional lines to be added to the system. Besides this we read that Marquis Ito favors the floating of yen 120,000,000 of Korean railway bonds and using the proceeds in giving the dependency a complete system of modern railways.

The Russian government is taking the aggressive in opening up her great eastern wheat lands. For the Amur railroad alone she has appropriated 2,500,000 roubles. In addition, concessions in Mongolia are under way and Russian and Chinese capital is jointly interested in the construction of several lines that will open up a new empire.

Scarcely a day passes that does not record some new railway project proposed in some part of the Chinese empire. From Manchuria comes the news of stiff rate competition between the Japanese controlled and the Chinese lines, a cheerful note in itself since it means a greater impetus to trade.

Just a few weeks ago another section of the Shanghai-Nanking Railway was thrown open to traffic. Amoy is waking up to her needs in the way of transportation and the projected line that is to tap a rich territory and place it close to the market for its products is being surveyed. In fact almost before the project is under way it is proposed to make the initial line the nucleus of a system which in conjunction with the other South China lines will satisfy every demand for transportation facilities in that rich territory. From indications, the railroads under way will make better progress in construction next year than in the past. Many obstacles have been overcome during the past year and the misunderstandings that embarrassed the management have in a large measure been adjusted.

The construction work in Yunnan province which has been delayed on account of misapprehension on the part of the Chinese authorities may be expected to continue more satisfactorily during 1908. The Chinese are awakening to the vast possibilities of their country with the introduction of more modern facilities for transportation and the modernizing of its natural industries. There are instances where more zeal than knowledge is displayed in their endeavor to secure all the benefits of Western institutions by urging immediate Chinese control of construction and operation, without regard to capacity or experience. This anxiety has developed a sentiment that would exclude foreign capital and initiative regardless of consequences. This attitude at this time, is not consistent with the conservatism of the Chinese people and there is reason to believe no such feeling will long prevail when the advantages of having the co-operation of experienced engineers and practical railroad managers as against inexperienced native direction, will have been realized. At the present time foreign capital seems ready and willing to share in this feature of China's development and there is reason to believe that a

better understanding beneween foreign capitalists and the Peking government would prove a much desired factor in furthering this great work. For years to come, China would benefit from foreign direction of her railroads, and natural and desirable from the view-point of ambitious and patriotic Chinese as Chinese management might appear, lack of experience is sure to result in delay, discouragement and even failure in many instances. The fear that in some way the integrity of China is menaced by the investment of foreign capital and energy must give place to an era of confidence in which the development of the resources should be the main end. As this development progresses, the Chinese will have the benefit of the experience and the training so that in the proper time, they may assume control of their railroads and direct them intelligently. Foreign enterprise should be encouraged and fostered in every way consistent with the general welfare.

China has nothing to fear. She has the assurance of the Powers that no invasion of her territory or her national rights will be countenanced. For this reason there is no room for pessimism. With the construction of her railroads, the development of every industry would follow and if pessimism means obstruction, then away with it.

In the Federated Malay States great progress has been made in railroad construction under the direction of the government. In all there are now over 490 miles of road in operation and following in the wake of the locomotive, has been marked development of the rich natural resources of the States. The good goes on; in a few years a complete net-work of steel will make every desirable section accessible.

In Siam the government is building a railway to connect Bangkok with the Northern provinces and making rapid progress. At the present time trains connect Bangkok and Paknampo and in two years the most Northern section will be put within a day's journey from the capital. In Siam there are 574 kilometers in operation and 295 under construction.

In Netherlands India great progress has been made in general development and it might be said, is measured by its railroads. There are 2,116 kilometers of railways in Java and 302 kilometers in Sumatra. In Java and Madoera there are 1962 kilometers of tramways and in Sumatra 481 kilometers.

In the Philippines there are over 800 miles of railway under construction and Manila has 30 miles of tramway. This means that in two years the archipelago will enter on an era of development that has marked the history of other sections of the Orient where the locomotive has led the way.

In Indo-China there are 408 kilometers of railroad in operation and 1558 kilometers under construction or projected. For this purpose the French chambers approved in 1898 of a loan of 200,000,000 francs.

When this system is completed Indo-China and Tonkin will be connected with the Yunnan and there will be few sections not brought within easy distance of the markets.

After a careful review of what has been accomplished in recent years and the projected construction under way, there does not seem any place for the pessimist in Far Eastern affairs during the year 1908.

DESTROYING WHITE ANTS

The government entomologist of Ceylon has given the result of his experiments in the use of carbon bisulphide as an agent in destroying the white ant. He writes:

Planters and others will be interested in the following advice which the Government Entomologist of Ceylon gives on the subject of white ants:—The eradication of Termites ("white ants") is another subject that has received serious attention during the past year. I have on several occasions shown that carbon bisulphide is a most effective means of destroying the insects *in situ* in their subterranean nests. But the extended application of this treatment has been hindered by the impossibility of obtaining a sufficient quantity of the fluid at a reasonable cost, owing to the unwillingness of the Shipping Companies to handle such dangerously explosive material. It was suggested that carbon bisulphide might be manufactured locally, the raw materials (sulphur and charcoal) being readily obtainable here. But it was found that special and costly appliances and the services of a trained expert would be necessary for its successful production. The Government Chemist then designed a portable machine for the generation of the gas and its application direct without previous condensation. In the meantime what promises to be a still more convenient and equally effective fumigating apparatus has been perfected elsewhere and has been in use in South Africa. Through the good offices of the Government Entomologist of Natal—who reports most favorably upon its work—I have obtained one of these machines and am now conducting experiments, which lead me to believe that a really satisfactory means of exterminating white ants is now at our disposal. The treatment consists in the volatilization of a mixture of sulphur and arsenic. The deadly fumes are driven by a powerful air pump into the galleries of the nest, permeating every part of it, as evidenced by the issue of jets of smoke from unsuspected apertures for several yards around the main shaft. The apparatus is small, light, and comparatively inexpensive, being placed on the market in South Africa at the price of £4 sterling.

QUEBEC BRIDGE DISASTER

The London *Times* correspondent at Quebec gives the following interesting comments on the bridge disaster there:

"The fall of the half-finished bridge at Quebec into the St. Lawrence yesterday evening which was being erected over the river 6 miles from this city at a point where the gorge narrows to less than 200ft. at low tide, is something more than a calamity to Quebec. It postpones to a still later date the connecting up the great Canadian railway systems of which it was to be a most important link. The only other bridge over the St. Lawrence is at Montreal. The new transcontinental line of the Grand Trunk Pacific, a sanctioned and matured project of immeasurable value to the Dominion, was to cross the Quebec bridge, and its destruction adds another difficulty to the many arduous engineering tasks connected with that scheme. Nevertheless, the bridge will be rebuilt; Sir Wilfrid Laurier was prompt in making that assurance, for it is a national enterprise that cannot be abandoned.

"As already described the Quebec cantilever bridge was constructed of rolled steel plates and angles, with no castings not even in the massive shoes and pedestals. Its entire length was to have been 3,300ft. divided into two shore anchor spans, two cantilever arms, and a suspended central span supported by four piers, the foundations of which were all built with pneumatic caissons carried down to a *maximum* depth of about 60ft. below low water. The two cantilever arms and the suspended span formed an unsupported structure of 1,800ft. between the two main piers. About 80,000,000lb. of steel was required for the bridge, and nearly half of this was in position when the accident occurred. Work had mainly proceeded from the southern end which collapsed, the superstructure here jutting out over the river for some 1,200ft The south piers had been completed some four years ago, and the anchor arm finished quite recently. Apparently the collapse of the superstructure was not due to the piers, for the anchor and centre piers are intact; the eye-bars of the anchor piers have been bent, but they are not broken. So far as can be gathered pending official investigation the main southern tower over the centre pier, carrying the cantilever arm (to which was being added the suspended span) was unable to bear the heavy strain it had to support. Anyhow, the structural work appears to have loosened at this pier, tearing the shore span from its fastenings at the anchor pier. The portion between the anchor and centre piers buckled and fell, whilst the long stretch of steel-work extending out from the main tower quivered and ponderously dropped 180ft. into the river in a few seconds. All, that is now left of the entire superstructure built from the south shore, representing so far a cost of £600,000, is a mass of twisted and tangled steel, some part of it lying above water.

"The cantilever portion of the structure, extending in a straight, unsupported stretch across the river, suspended from overhead, but entirely without pillars beneath, represents an unusual feature in bridge building. Its destruction does not so much raise the question of whether too much has not been attempted without pillar support, but whether enough regard has been paid to the degree of weight and tension to which elongated portions of incompleted bridges, projecting out from a tower at one end, and hanging on air at the other, can safely be subjected to pending the welding of the entire edifice. Upon the superstructure an enormous 'traveller,' built of steel, 215ft. high, with an over-reach of 66ft., had been in constant operation and appears to have gone down with the wreck.

"The Phœnix Bridge Company, of Phœnixville, Pa., the contractors for the superstructure, followed a design which, to some extent, did not admit of the observance of precedents in bridge building. In many respects, certainly, the Quebec bridge stood in a class by itself, its long-suspended span, with pin connexions flanked by the cantilever arms constituting its outstanding feature. That it has now become a total wreck almost suggests that in its design there has been too wide a departure from existing practice. There is probably only one other like structure which admits of some comparison with it—the bridge now building over Blackwell's Island at New York. It has members of nearly equal weight and length, and is being erected by similar methods, but weighs much less, though designed to bear a considerably heavier traffic."

OBSTACLE TO DEVELOPMENT OF AMERICA'S ORIENTAL TRADE

The following report from Consul-General David F. Wiber, of Singapore, shows that shipments of all products from the Atlantic coast ports of the United States to and from oriental ports via the Suez Canal are controlled by slow and irregular steamship lines under foreign flags:

All shippers of East India products to Atlantic ports in the United States, where 90 per cent of all such shipments go, are forced to ship by lines in the combine on account of the rebates and conditions. At the end of every six months all shippers who have not patronized vessels of lines outside the conference are entitled to a rebate according to the following circular, which was sent to shippers of Straits produce by an agent of one of the lines in the combine:

"To those exporters from Singapore and Penang to New York or Boston by direct steamers via Suez Canal who, from November 1, 1905, to April 30, 1906 [the same conditions are still in force], may have found it to their interest to confine their support and shipments, during that period, to steamers loaded by us we shall be happy to allow a rebate of 5 per cent on the freight paid as per bill of lading, said rebate to be payable on the freight to terminal port only, all arbitraries to points beyond that port to be free of rebate. To those who on October 31, 1906, may have found it to their interest to confine their support and shipments during the whole twelve months to the said steamers we will allow a further 5 per cent on freights contributed up to April 30, 1906, and 5 per cent on those from that date to October 31, 1906. To those who on April 30, 1907, may have found it to their interest to confine their support and shipments during the previous

eighteen months to the said steamers we will allow an additional 5 per cent on freights contributed during the six months ending October 31, 1906.

'Until further notice shipments made by steamers belonging to the Hamburg Amerika Linie, Indra Line (Limited), Standard Oil Company of New York, Dampfschiffs Rhederei "Union," Actien Gesellschaft, American and Oriental Line, or steamers loaded by Messrs. Shewan Tomes & Co., and Dodwell & Co. (Limited), will not invalidate claims for the above. No 'returns' will be payable on freight contributed by rice, hemp, and treasure or cocoanut oil. Exporters applying for the returns, which will be payable at port of shipment on and after January 1, 1906, July 1, 1906, and January 1, 1907, respectively, must fill up and sign forms which can be obtained from the agents."

* * * * * * * * * *

By the conditions imposed in the foregoing circular, at the end of a year it results in a rebate of 10 per cent on shipments for the first six months, 5 per cent on those of the second six months, and a credit of 5 per cent for the same period, which is no doubt held back as additional means to compel shippers to remain faithful and patronize no vessels outside of the combine. A printed form is given to shippers at the end of each six months, which they are required to fill up and sign in order to obtain the rebate to which they are entitled.

EFFECTS OF THE COMBINE

Prior to the organization of this shipping combine, owing to competition, rates from here to New York in some instances were one-half what they are now, and in all instances much lower, and 50 to 75 per cent lower than rates to England and the Continent. Now the rates to New York are the same as to English and continental ports, except on tin, rattans, jeletong, gums in cases, and arecanuts in bags. These lines also handle the bulk of the freight between New York, Boston, Manila, Hongkong, China, and Japan.

Since the writer became consul here an American steamer bound from Manila to New York, partly loaded, called at this port and endeavored to complete her cargo. While there was plenty of freight for Boston and New York ready for shipment no shipper dare take advantage of the opportunity for fear of the loss of rebate on former shipments. All shippers of produce, outside of those who are agents for the vessels which are in the combine, would no doubt welcome a fast regular line through the Suez Canal to New York. But such a line must be independent of any combination and furnish sailings sufficiently frequent to guarantee shippers that all their cargo will be taken care of before they would dare break away from the combine. American trade throughout India and this part of the world has been seriously handicapped for years by the slow, irregular, and unsatisfactory shipping facilities.

A representative of a large New York export house said to the writer the other day that he had had American goods lying in the hold of one of these steamers in New York for more than thirty days after the loading permit had been issued before the vessel sailed. This is one of many complaints of similar character made by importers of American goods here. No one can tell when goods ordered from the United States will arrive, and for this reason loss of orders is frequent.

QUICKER TIME VIA EUROPEAN LINES

It is sufficient to say in any case they can be delivered by the fast regular lines from England and the Continent in less than half the time it takes from New York, and on account of these regular lines from Europe, a representative can ordinarily guarantee deliveries of goods which are held in stock. Even the present high conference rates from New York to Manila are no more than the bare water rate from San Francisco, leaving out the cost of transportation to San Francisco by rail from the East and Middle West and not considering the liability of breakage at transfer points on the Pacific route. The conference rate to Singapore is $1 gold per ton less on regular cargo from New York via Suez, with no transfers after leaving New York, than the bare water rate from San Francisco, with transfer at Hongkong. It is evident that the American manufacturers and producers east of the Rocky Mountains must, in order to compete in transportation with those of Europe, use the New York route via Suez canal in order to develop American trade between Suez and the Philippine Islands.

DIRECT AMERICAN LINE NEEDED.

What is absolutely necessary in order to build up American trade east of Suez is the establishment of a regular fast American line of steamships from New York to Manila, stopping at Indian ports, Penang, and Singapore, connecting here with the vast number of coast lines running to Siam, Java, Sumatra, Borneo, and the other islands of the Netherlands and southern Philippines. Foreign capital will not give us such a service with which to build up American trade, but will give us all of the present service necessary in order to hold the business and prevent the establishment of a regular American line to promote the sale of American products and manufactured goods in this part of the world. The time will come when a share of this trade will be needed as an outlet for our fast-increasing production. Facilities must be provided to compete with other countries, and transportation is one of the most important. Resident American representatives are also needed, but the present transportation facilities offer little encouragement to manufacturers and producers to locate men in a field where such an obstacle exists.

SHIPPING REBATES AND LOCAL STEAMERS.

The following from the Singapore *Free Press* shows further development of this rebate system:

"The public are by this time fairly well aware of the system of rebates on freight charges worked by what is known as the Homeward Shipping Conference. However profitable that may be to the companies and firms constituting the aforesaid combine, it is not questioned that the joint monopoly endeavored to be thus created has been, and continues to be, prejudicial to the general shipping interests of the port by the elimination of the competition of tramp steamers, now so largely wiped out from our shipping lists. It is, however, a new departure to see that this rebate system is now being applied to the working of local steamers distributing or collecting trade between Singapore and Bangkok. And when we say 'local steamers,' that refers to the line which is now in the hands of the Norddeutscher Lloyd as a subsidiary feeder to their regular liners running between the Far East and Europe.

MALAY STATES PROSPEROUS

There is every indication that the Federated Malay States have entered upon an era that will surely be marked by unprecedented prosperity. All official reports point to increased activity in every line of business and with the proposed public improvements, providing particularly for better inter-communication and transportation facilities, must when completed add greatly to the wealth producing capacity of the country. During the last year great strides have been made in the solution of transportation problems and the finance of the States were never in a more flourishing condition. The report of the High Commissioner shows that after the special expenditure of over 3,000,000 dollars on the Johore Railway, besides the ordinary expenditure, there is left a surplus of $5,000,000. True there has been a falling of in the quantity of tin produced during the year but this was largely due to the fact that the different mines were not equipped with the necessary machinery to realize successfully on the lower grades of the ore. This condition has been in a large measure remedied by the enterprising mine owners so that not only will the States have the benefit of the additional development of new deposits but the improved methods of mining low grade ores will, it is expected, almost double the production before the close of next year. Prospectors have been active during the year, and from all reports, their work will soon show results in the opening up of many new zones of activity in mining.

But it is in the cultivation of rubber that the Federated Malay States have made marked progress in the year just ended. The report of the Resident General shows that there were 100,000 acres under cultivation at the close of 1906 compared with 40,000 acres of rubber for the year 1905. The labor problem has been practically solved and the difficulty of attracting it to the States overcome. The immigration returns show a remarkable increase over former years, proving that the reputation of the planters for fair dealing and providing proper provision for the care and protection of the workers in their employ has served to make the F. M. S. more popular every year to the classes of immigrants most desirable to the proper development of the resources of one of the richest sections of the Far East.

BRITISH MAIL RECORDS

The news that the Canadian Pacific Railway delivered the Yokohama mail at Ottawa in a little over 13 days is another indication of the marked enterprise of the British in furthering their Far Eastern trade contrasted with the manner in which other commercial nations apparently neglect the necessary mail service. With proper connections the Hongkong mail could be delivered at Ottawa in at least 18 days and from Manila in 21 days. There should not be more than two days difference between Ottawa and New York at the outside which wonld make 23 days to New York if proper provision were made for connection at the transfer points. There is little doubt but that the different British colonies will see to it that the advantages of the splendid service accorded by the Canadian Pacific Mail steamers are not neglected and that any lack of provision for prompt connections will be remedied.

In comparison with this splendid service which the British line is inaugurating, the tardiness of the American postal authorities in recognizing the necessity of greater dispatch for Manila mail is a striking reflection on the enterprise of that department. Mail from Manila generally reaches New York about 30 days after mailing and many times five days may be added. The exceptional time made occasionally is entirely dne to the fact that it makes connection with the Empress line.

NEW CHINESE PROVINCES

It is proposed to make another five provinces in the south-western confines of the Empire. They are to be named:—

1.—Kaiping, which will include Yung-ping and Tseng-wo prefectures and the districts lying to the immediate north of Peking.

2.—Jehol, which will include Chente and Chao-yang prefectures, besides 5 or 6 Chows and Hsiens, which are at present under the control of a Lt.-General; this territory is reputed to be exceedingly rich in mineral wealth.

3.—Sui-yuan, which will include Kohonor and Mongolia.

4.—Chuen-si, which will include the territories West of Tachienlu, and the Western portion of outer Tibet, with the Lungtsu River as the natural boundary.

5.—Tibet, which will include the remaining portion of Tibet.

RUBBER INDUSTRY IN PERAK

The total area of land in Perak already planted or shortly to be planted with rubber amounted on May 31 to no less than 125,555 acres. The districts most favored by planters are Lower Perak and Krian, where the finest alluvial river-flats of the country are found. Lower Perak easily heads the list with 36,746 acres, Krian coming next with 28,117. Other districts are as follows: Kuala Kangsar 20,041, Kinta 14,244, Batang Padang 12,819, Matang 9,696, Larut 2,892, and Upper Perak 1,000.

THE TANJONG PAGAR DOCKYARDS, SINGAPORE

When the proposed extensions to the Tanjong Pagar Dockyards are complete, two years hence, Singapore may boast of one of the largest dockyards in the world. At the present time the Tanjong Dock Board controls wharves over two miles in extent, the depth of water alongside ranging from twenty to forty feet at low water tides while the extensive machine shops, graving docks, shipbuilding yards and warehouses make a remarkable demonstration of material wealth, energy, and enterprise.

When the new extensions are completed the docks will be sufficiently large to accommodate the largest vessel afloat. The entire equipment will be brought up to the highest standard of efficiency and the space involved will meet every condition with the latest convenience in the shipbuilding line.

The Tanjong Pagar Wharf—The wharves are about two miles in extent and the depth of water alongside varies from twenty to forty feet at low water spring tides.

A steam hoisting shears capable of lifting 45 tons is erected on the wharf at a point where the water alongside is 26 feet at low water tides. There are also a number of large cranes in operation.

Keppel Harbor Wharf—This wharf is 3,000 feet in length with about 16 feet to 26 feet of water alongside at low water tides and connected with the shore by bridges. Powerful steam shears and cranes for lifting machinery, boilers, masts, etc., are conveniently situated at the east end of the Wharf.

The location of the wharves at the extreme Eastern and Western entrances of Keppel Harbor, renders them accessible by night as well as by day, and at all times of the tide, with or without a pilot.

There are warehouses of the wharves capable of storing 300,000 tons of cargo. In addition to these facilities, cargo for transhipment can be stored in lighters to await arrival of transhipment steamer, thus avoiding extrahandling.

An army of stevedores is always on hand to discharge with expedition general cargo from sailing vessels or steamers under superintendence of the ships' officers.

Cranes and steam winches with all necessary equipment are on the wharf and always ready for immediate use while the Board has working gear to facilitate loading and unloading cargo. This cargo is taken in charge from the ship's side and stored in the godowns at tariff rates and in addition to this convenience carts for delivery of cargo in the city are made available. These accommodations afforded the shipping trade have made the port of Singapore exceedingly popular.

Lighterage—The Tanjong Pagar Dock Board has available under its direction a fleet of 61 lighters for conveying cargo, coal, etc., to and from the wharves and for use in the harbor. This fleet will soon be increased to 120 vessels.

Towage and Salvage—A large number of steam tugs are always available for towage and salvage work.

Fresh Water—Fresh water pipes run along the wharves and vessels can be supplied at a charge of 85 cents (Straits) a ton of 224 gallons.

Graving Docks—Victoria Dock (Tanjong Pagar), opened in 1868, was built of granite. It is 450 feet long, 65 feet wide at the entrance and has 20 feet of depth in water on the sill at highest Spring tides.

Albert Graving Dock—(Tanjong Pagar) was opened in 1879 and is constructed of concrete. Its length is 480 feet; width 60 feet at entrance and its depth 21 feet on the sill at highest Spring tides.

No. 1 Graving Dock (Keppel Harbor)—Opened in 1845 and constructed of granite; 415 feet in length; 42 feet wide at entrance; depth, 15 feet on the sill at high water tides.

No. 2 Graving Dock (Keppel Harbor)—Opened in 1869 and constructed of granite; 444 feet in length; 65 feet wide at entrance and 19 feet in depth on the sill at highest spring tides.

Graving Dock (Prye, Province of Wellesley)—This dock is 340 feet long, 50 feet wide at the entrance with a depth of 15 feet on the sill at Spring tides; also Patent Slip at Prye is capable of accommodating vessels up to 110 feet on the keel.

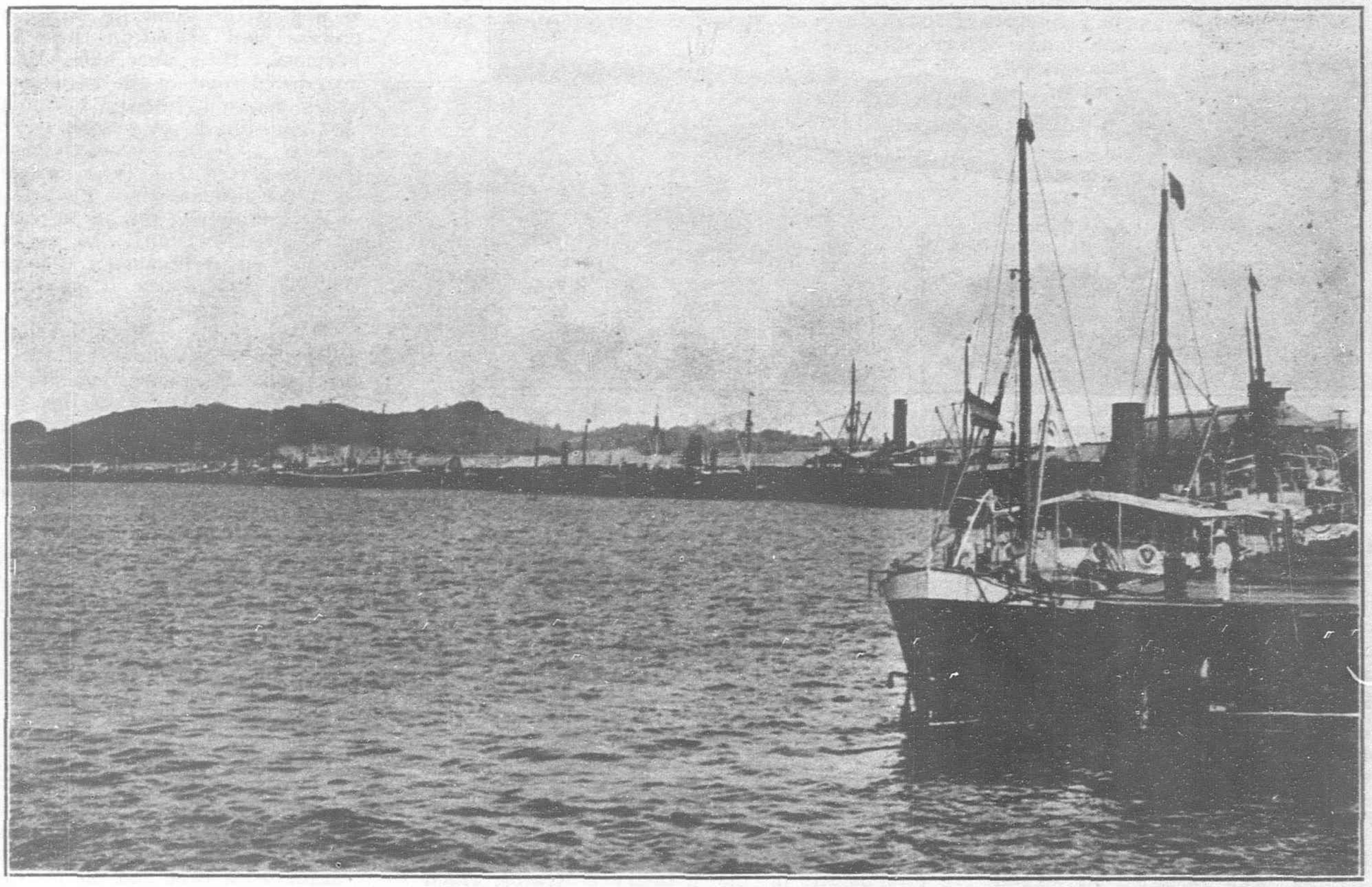
In addition to these docks there is now under construction a new dock which when completed will be 811 feet in length and in such proportion as to accommodate the largest vessel afloat. All the docks are equipped with powerful centrifugal pumps and may be emptied in from two to four hours as required. The workshops fitted with steam and hydraulic machinery of the most modern type and equipped with every description of tools required for the construction and repair of ships and machinery, adjoin the several docks.

Machine shops.—The machine shops are fitted with a large variety of modern labor-saving appliances. The lathes are capable of boring cylinders 100 inches in diameter, turning pistons 9 feet in diameter, and shafting up to 45 feet in length.

The machinery, besides the above mentioned lathes, consists of hydraulic plate rolls, flanging machines and rivetter, also shearing, punching, plate-planing, plate-boring, and counter-sinking, planing, screwing, shaping, milling, slotting and radial boring machines, steam hammers, and plate and angle furnaces.

Each department has suitable cranes for handling weights, with every appliance required for the efficient and expeditious construction or repair of hulls and machinery of iron, steel, or wooden vessels.

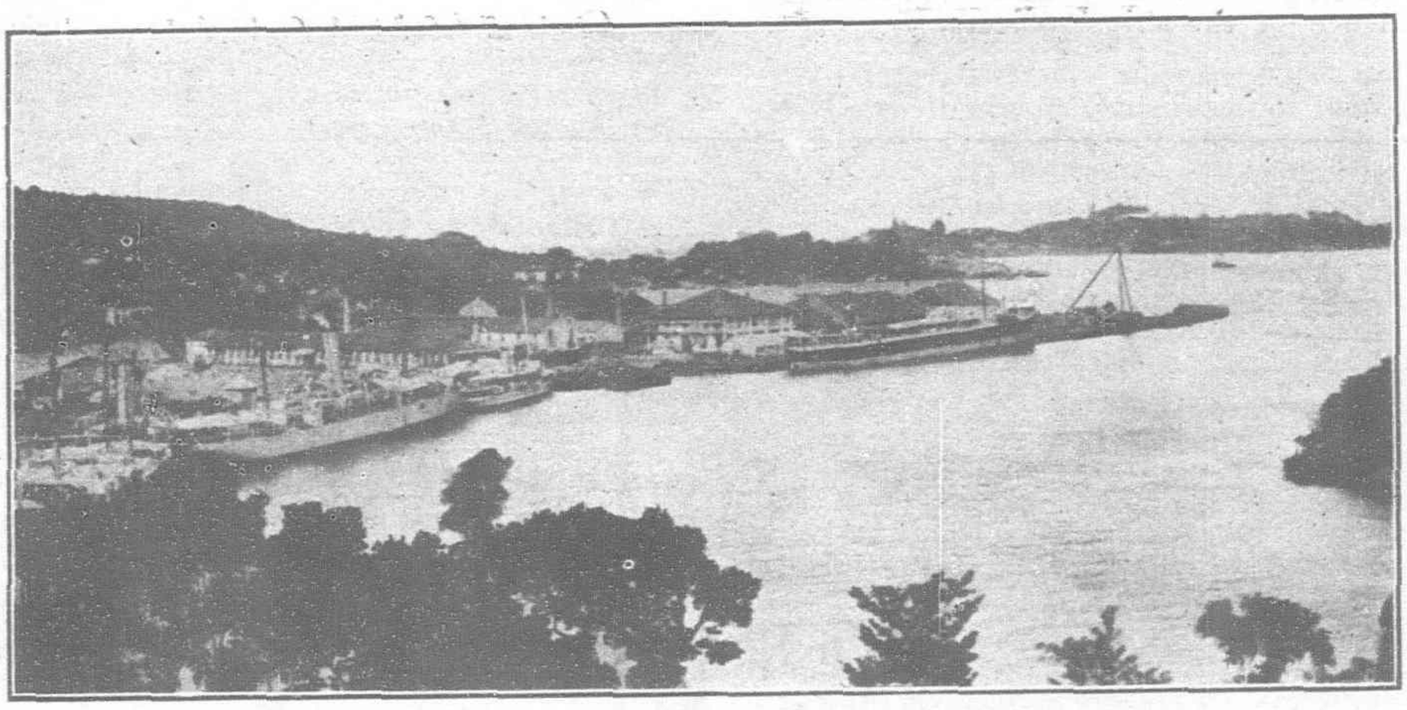
Extensive Blacksmiths' shops adjoin the machine shops, with appliances capable of



GENERAL VIEW OF THE TANJONG PAGAR WHARVES AT SINGAPORE

making forgings for crank shafts of 12 inches in diameter, and welding shafting up to 11 inches in diameter.

The Foundries are fitted for making every description of iron, brass, and bronze castings, propellers and cylinders up to 10 tons in weight.



KEPPEL HARBOR SECTION OF THE TANJONG PAGAR DOCKS AT SINGAPORE

The boilermaking shops are fitted with the latest hydraulic machinery, overhead travelling cranes, &c., capable of constructing boilers up to 30 tons.

Repairs to boilers are executed with the utmost despatch. Hydraulic jacks to lift 150 and 300 tons, suitable for raising the furnace crowns of marine boilers, are part of the equipment.

Experienced European superintendents are in charge of these departments, having under them skilled foremen and artificers both European and Native.

Telephone Service—Every section of these gigantic works may be reached by telephone, instruments having been installed in all the wharves, docks and offices and the system is made available to the public without charge.

Shipbuilding yards.—These yards are suitable for building steel, iron, composite or wooden vessels of any size, and the Board will furnish plans, specifications, and all requisite information on application. There are a number of steam launches always in course of construction, ready for completion at short notice.

Electric lighting.—A staff of skilled workmen under European supervision is kept, and repairs can be promptly and efficiently carried out, and electrical requirements supplied.

The development of this splendid system of docks, so closely identified with the history of Singapore, originated in the early enterprise of the Tanjong Pagar Dock Company. The original premises of the company were situated about a mile westward of the city, but in 1900 the company purchased the property of the New Harbor Dock Co. situated about three miles farther westward of the city. In 1904 the government decided to take over the whole of the property and in 1906 the award was made and the transfer consummated. The award amounted to about £3,000,000. Since that time the direction of the docks has been under the control of the Tanjong Pagar Dock Board of which J. R. Nicholson is chairman.

Among the recent large contracts completed by the dockyards were the repairs to the United States Transports McClellan and Wright. The overhauling and repairs on these vessels were highly satisfactory to the United States government.

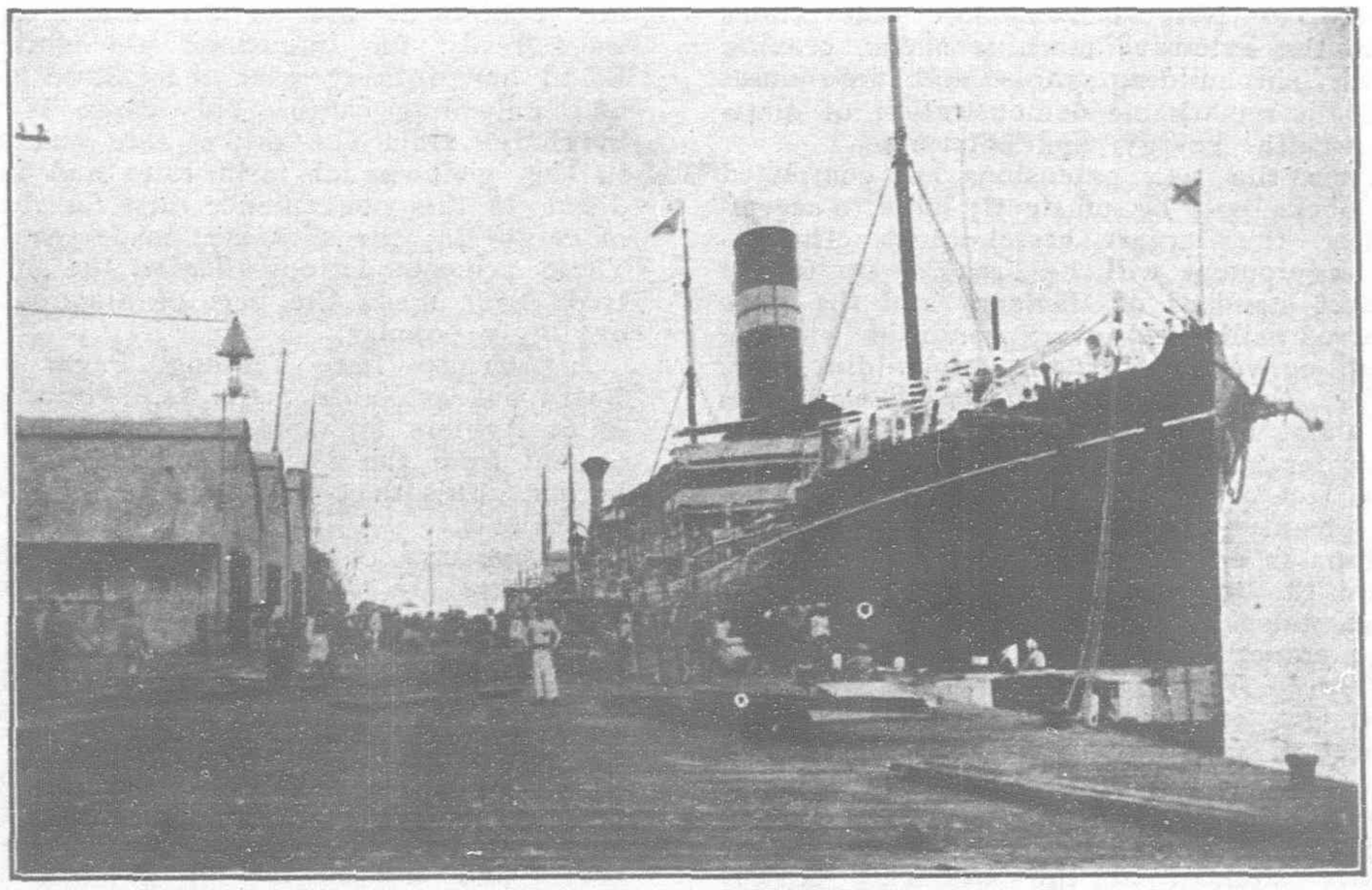
SUGAR INDUSTRY IN THE PHILIPPINES

Dunn's International Review for August publishes an interesting article on the sugar industry of the Philippines written by Julio de Salútregul, secretary of the Iloilo Chamber of Commerce, in which he reviews the prospect for 1907 and points out that the sugar growing industry has nothing to fear from the Philippines in view of the high cost of production due to antiquated methods and the scarcity and high wages paid for inferior labor. The article follows:

"The cultivation of sugar is, with the exception of Manila hemp, the most important branch of agriculture in the Philippine Archipelago, and until about twenty years ago surpassed even that product in economic value to the islands. Among the various regions in the Philippines that have taken up the cultivation of sugar cane, the most important is the group of islands to the south of Luzon, known as the Visayas, and among these the island which has acquired the greatest prominence in the industry is Negros, which produces more than one-half of the entire amount raised in the Philippines. There are many causes that have contributed to the development of cane raising in the Island of Negros, but the fertility of its soil and its peculiarly suitable climate are undoubtedly the most important. Other factors favoring the development of its agriculture have been the personal security which has existed for a long time in this island, and the abundance of labor, as well as the abundance of horses, which are very useful, even at present, to the farmers in the Philippines.

"It may be stated that sugar cane is exotic in the Visayas, and although there are no historic data to prove its introduction by the different colonies established on the southwest part of the islands, it is very probable that this plant was introduced by the Chinese who gave a great impulse to its cultivation in the Philippines, as shown by the etymology of the names of the various articles used even now by the Filipinos in the production of sugar, as well as the similarity of the manufacturing process used of old in these islands and in Formosa. It is very likely that the Chinese introduced some of the varieties of sugar cane which were cultivated in Formosa, but even at that time the plant was already known in the Visayas, as well as when the Spanish Government imported some of the American varieties. Of all the different kinds of sugar cane produced in the Philippines, the purple variety is the one most generally cultivated at present in the Visayas, either because it is better adapted to this soil, or because it produces the largest amount of sugar.

"The methods of cultivation used by the great majority of planters in the Philippines are practically the same, but are quite different from those employed in this industry in the nearby island of Java and in the sugar producing regions of America. Philippine methods are, as a rule, antiquated, almost prehistoric, both in regard to the cultivation of the cane and in the manufacturing process. The industry may be said to be in its infancy in the Philippines, as the planter has not even succeeded in becoming independent and has to be both farmer and manufacturer. There is not a single sugar factory in the entire region of the Visayas; that is to say, a central factory provided with modern and improved machinery, and therefore each farmer has to turn the cane into sugar by his own labor, which explains the poor condition of the sugar industry in the country. When the Americans took possession of the Philippine Islands it was thought at first that the farming industry would be greatly improved by the introduction of new methods and improved machinery for the cultivation of the cane and the production of sugar, and also that some central factories would be built and various small plantations united; but unfortunately, up to this time, the Americans have done absolutely nothing for the betterment of the sugar industry, either by furnishing industrial, intellectual or monetary elements, or by helping the planter directly or indirectly. In view of the fact that the Insular Government has taken no interest what-



EAST WHARF SECTION OF THE TANJONG PAGAR DOCKS AT SINGAPORE WITH THE BRITISH INDIA MAIL STEAMER TEESTA ALONGSIDE

ever in the colonization of and the gradual restoration of agriculture in the entire Philippine archipelago, the United States Government has decided to guarantee an interest of 4 per cent to the Agricultural Bank, which is about to be established in this colony. Owing, however, to the small capital of $10,000,000, in Philippine money, with which this bank will be started and to the strict laws prevailing in regard to loans on agricultural property, it is hardly to be expected that this bank will be a very important factor in the development of sugar production in the islands.

"The soil most generally suitable for the cultivation of sugar cane is to be found on the high plateaus or else on the mountain sides with a very gradual inclination, having a sufficient amount of moisture with good drainage and free from vegetation or roots of other plants. The planting season extends from November to January, when the danger from typhoons or storms is over. The cane reaches its complete development in twelve to fourteen months on a good soil, whereas it takes from 15 to 18 months on virgin and other lands which have not been thoroughly tilled.

"There are very few plantations that will produce five crops in succession from shoots, but on a very good soil it is possible, and even common, to obtain four crops from a single planting. In the majority of cases the planting is done by means of cuttings, using for the purpose the parts of the cane containing less sugar. The result of this practice is that the growth of the cane is stunted and the plants degenerate rapidly. The average production in the Philippines from lands properly tilled, according to Philippine methods, is from 1 to 1½ tons of sugar per acre, which is the smallest average in the entire world, both for cane and for beet sugar. The operation of cutting and carting the cane is done by means of animal power, as there are very few plantations having railroad tracks for the transportation of the cane to the mill. When a part of the cane has been stored in the shed of the mill, the operation of grinding begins and is carried on from one to three months, according to the amount of cane collected and the interference from rains.

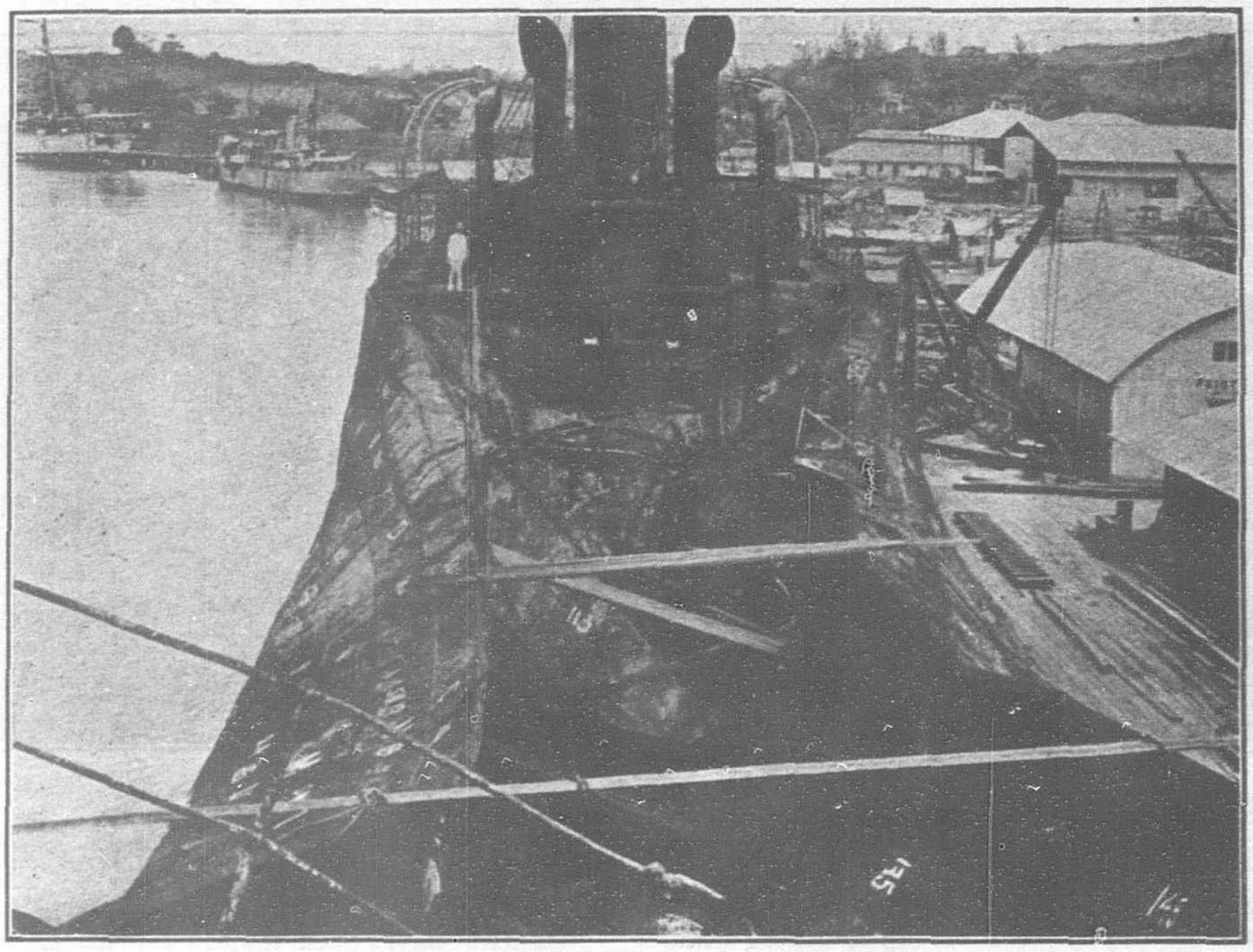
"The grinding process used in the Visayan Islands is not only very slow but highly wasteful to the planter, as it leaves in the cane from 30 to 35 per cent of the juice, which has to be evaporated in order to use the bagasse for fuel when dry. The boiling is done in pans in the open air, and the waste by this process is as large or even larger than that from the grinding. A complete ignorance of chemistry on the part of the farmer is another cause of the poor quality of the sugar produced in the Philippine Islands. It may be said that in the entire region of the Visayas there is not one chemical laboratory in which the most simple operation pertaining to this industry could be performed in a scientific manner. In regard to the study and the analysis of the soil used for the cultivation of cane, and for experiments with new systems of cultivation, the same conditions prevail.

"When the sugar that has been boiled in the open pans thickens and cools it is packed in bags made from the leaves of the plant called buri. These bags contain from 80 to 100 lbs. of sugar each and when filled they are reinforced with reeds and then they are ready for shipping to the market of Iloilo on launches carrying from 1,000 to 2,000 bags per trip. Merchants in Iloilo classify the sugar according to quality, making it No. 1, 2 and 3, damp and ordinary. This classification is made in the rule-of-thumb way, inasmuch as No. 1 shows 87° on the polariscope, and it is very seldom that one can see No. 0 sugar showing a polarization of over 92°, and the merchant mixes a very small amount of the latter with No. 1 for the adjustment of prices. Prices are as a rule quoted on assorted sugar, the type for which refers to a certain amount of sugar that is formed from the three first qualities on conventional proportions. The unit of weight used for all sugar transactions in the Philippines is the "pico," equal to 137½ pounds.

"In Iloilo, which is the main sugar center in the Visayan Islands, are the merchants to whom the planters sell their sugar, either for local consumption or for export. The exporting firms are mainly Chinese or English, whereas the merchants who buy from the planters and sell to the exporters are Spaniards or Filipinos. Sugar plantations are as a rule managed by Spaniards, most of whom come from the northern provinces. There has always been a very close relation between the merchants of Iloilo and the farmers of the Visayas. Three firms have especially distinguished themselves by the interest they have taken in the development of the agricultural industry at all times and circumstances: the old English firm of Loney & Co., the American firm of Russell & Sturgis, and the Spanish house of Inchausti & Co.

"The best year known for the sugar industry in the Visayan Islands was undoubtedly that of 1892, in which in the port of Iloilo alone the exports amounted to 2,600,000 picos, whereas in the year 1900 they hardly reached 500,000 picos. The change of ownership of the Islands, the emigration of capitalists, the damages caused by the last insurrection, and the mortality of cattle were the main causes for this enormous decrease in the production of sugar. As peace is re-established and personal security becomes assured, work on the farms, which had been abandoned by their owners, is being started again, so that in the year 1905 the entire crop of sugar in the Visayas amounted to 1,140,000 picos, and during the season of 1906 it rose to 1,718,000 picos. The coming crop of 1907 is estimated at about 1,600,000 picos, that is 100,000 tons, notwithstanding that many plantations were devastated by locusts, and the scarcity of cattle for tilling the land and other farming operations. Up to about 10 years ago sugar from the Visayas was exported mainly to England and the United States, but since the Americans took possession of the Islands, China and Japan are the best markets for the sale of this article. For instance, in the year 1892 there were exported from Iloilo over 2,000,000 picos for the United States and the British Islands, whereas to China the exports were hardly one-fourth of that amount. On the other hand, in the year 1901 exports to China were ten times larger than the exports to the British Islands and the United States. The exports of sugar to England have ceased entirely because the market of Hongkong pays better prices and therefore many Chinese and English firms have taken up the export to the latter country. Japan is taking gradually increasing amounts, but its importance in the market of Iloilo is as yet only secondary. The United States, which ten years ago was such a good market for the sale of this sugar, does not offer, at present, any margin of profit on account of its high duties, which make it impossible for us to compete with the sugar from other markets. This notwithstanding, in the year 1906, we exported to the United States over 180,000 picos, against 1,500,000 which were exported to China and Japan. If the tariff is removed in behalf of the Philippine planter it is to be hoped that the exportation of the main product of the Visayan Islands to the United States will increase very rapidly.

"With the construction of railroads in the Visayas a rapid development is to be expected in the sugar industry of the Panay and Negros Islands, as they will open to cultivation all the virgin and waste lands of that region, as up to this time the cultivation has been limited to those lands that are near the coast or navigable rivers, owing to the lack of means of transportation for the product of other sections.



LLOYD'S STEAMER NETHERTON UNDERGOING REPAIRS AT THE TANJONG PAGAR DOCKS AFTER BENZINE EXPLOSION AND FIRE

REPAIRING A RUDDER POST AT THE TANJONG PAGAR DOCKS

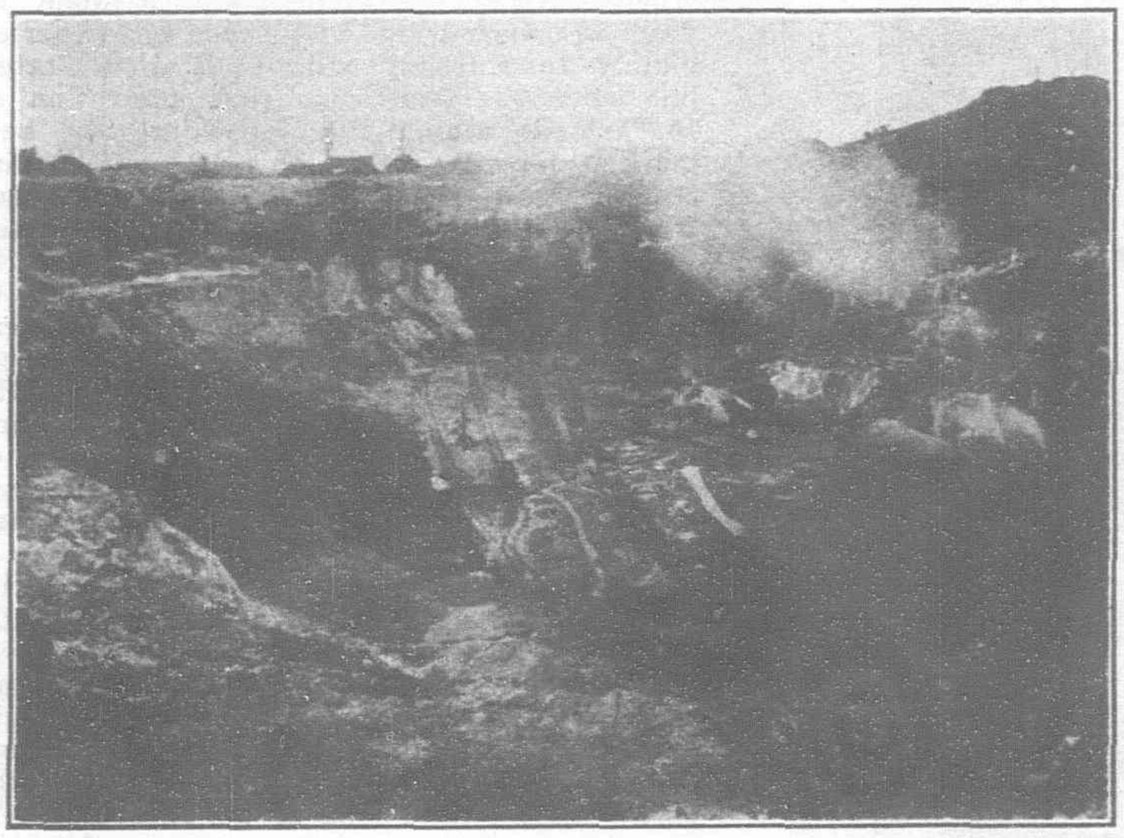
GOLD AND TIN MINES IN THE FEDERATED MALAY STATES

By J. B. SCRIVENOR

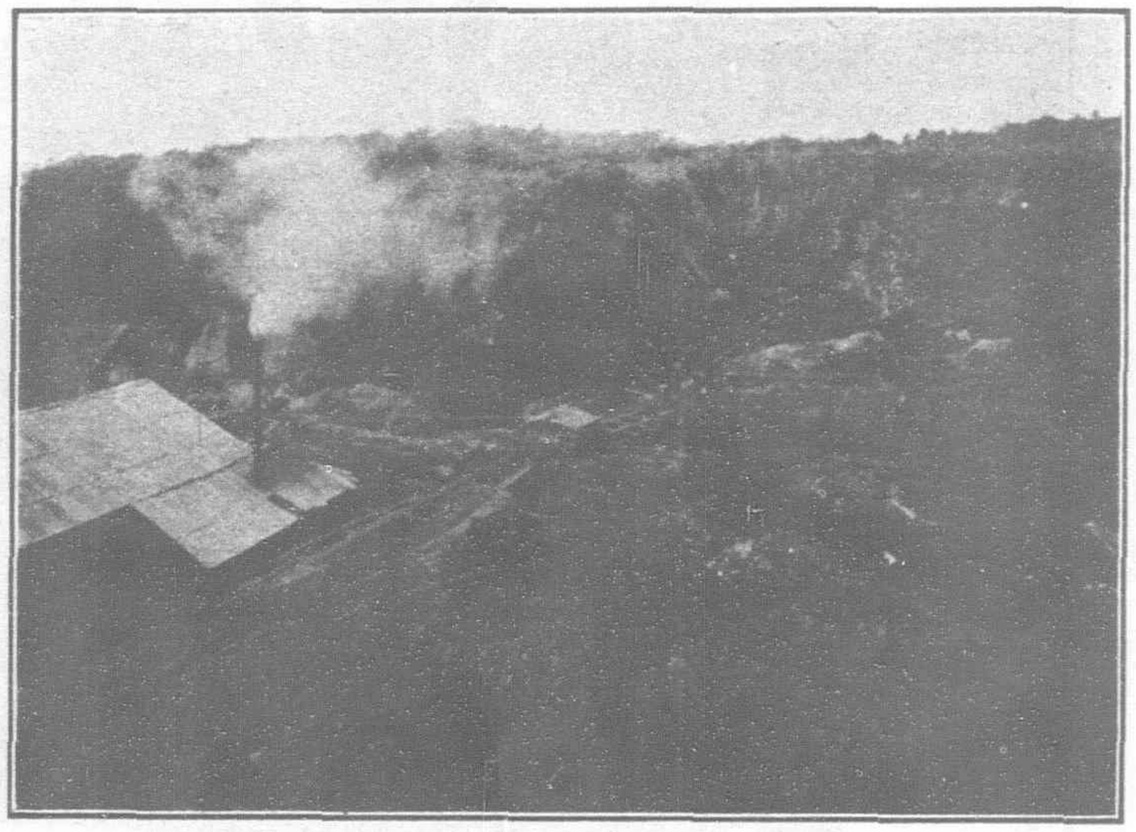
(Concluded from October Issue)

AYER DANGSANG

This deposit is situated about half a mile from the well known Lahat "pipe" and strongly resembles the Changkat Pari deposit. Here also, a big shaft has been sunk on the ore to a depth of 88 feet. No driving has been carried out. A section across the ore bottom of the mine is roughly pear-shaped. The cassiterite occurs in short dark brown prisms, and is associated with masses of pyrite, chalcopyrite, bornite, arseno-pyrite, and sometimes chalybite, or a carbonate akin to it. The gangue is calcite. I have a specimen showing fluorite. By treatment with acids I obtained a little tourmaline. The deposit is worked by the Société des Etains de Kinta.



THE SUNGEI BESI MINE NEAR KUALA LUMPUR IN SELANGOR, OWNED BY FOO CHOO CHOON



CHUNG ON SUIO SABAT MINE IN THE KINTA VALLEY, PERAK

SIAK

For more than two years attempts to work this property were made by Towkay Foo Choo Choon, who extracted extraordinary rich ore from crevices between limestone pinnacles. In 1905 the Société des Etains de Kinta took over the mine and stripped the limestone of overlying detritus. This revealed a number of small fissures with "blows" of ore formed by impregnation of the walls. The ore consisted of cassiterite, fluorite, arsenopyrite, quartz and calcite, all forming good crystals. Arsenopyrite was very abundant. White mica and tremolite also occurred. The Société prospected with a diamond drill, and were satisfied that underground work would not repay them. The property afforded a good example of a stockwerk in limestone.

I examined microscopically a partially cleaned sample of detrital ore from one of the crevices between the limestone pinnacles. This was not entirely derived from the stockwerk. It consisted of cassiterite, zircon, rutile, brookite, pyrite, arsenopyrite, ilmenite, monazite, tourmaline, muscovite and apatite. The monazite was not uncommon.

JESOPHAT'S VALLEY

The deposit in Jesophat's Valley is of type very different from the foregoing. The valley is a deep cleft in a spur of a big limestone hill rising to 2,000 feet and is, apparently, part of a fissure in which the ore has been deposited. At first the work was chiefly on soft muddy ore; but as the fissure was followed in depth, it became hard and had to be stamped. At the time of my last visit the ore was brought up 100 feet on an inclined skipway and then let down about 150 feet by an aerial rope to a small stamp battery and Wilfley table at the base of the hill. A typical piece of ore has the appearance of a dried fig. It consists of a matrix of iron-stained calcite enclosing beautifully rounded grains, which are mainly of quartz, ilmenite, and cassiterite. The quartz is slightly opalescent. The calcite has in cases formed large crystals-cf., the well-known example near Paris of gypsum crystals in sand stone—so that the fragments break along cleavage planes with a distinct sheen. Under the microscope, rounded grains of tourmaline and rounded masses of white mica have been detected. Much of the cassiterite shows a peculiar pleochroism noticed elsewhere in these States, E carmine, O colorless, or pale green.

The junction between the ore and the limestone wall is sharp and there is no sign of impregnation. Similar ore occurs in crevices on the plains below; and, judging from the form of the crevices and the shape of the grains, I think it is evident that in both cases we have an example of swallow-holes in which tin-bearing alluvium has been churned by swift waters, concentrated, and finally cemented by calcite derived from the limestone country by solution. Granite out-crops not far from the hill and pebbles of altered sediment with tourmaline are found hard by; therefore there is no difficulty about the source of the ore. Moreover there is evidence of the occurrence of non-detrital cassiterite in limestone in the vicinity. A considerable quantity of ore raised in 1904 exceeded 4% tin dioxite.

LAHAT

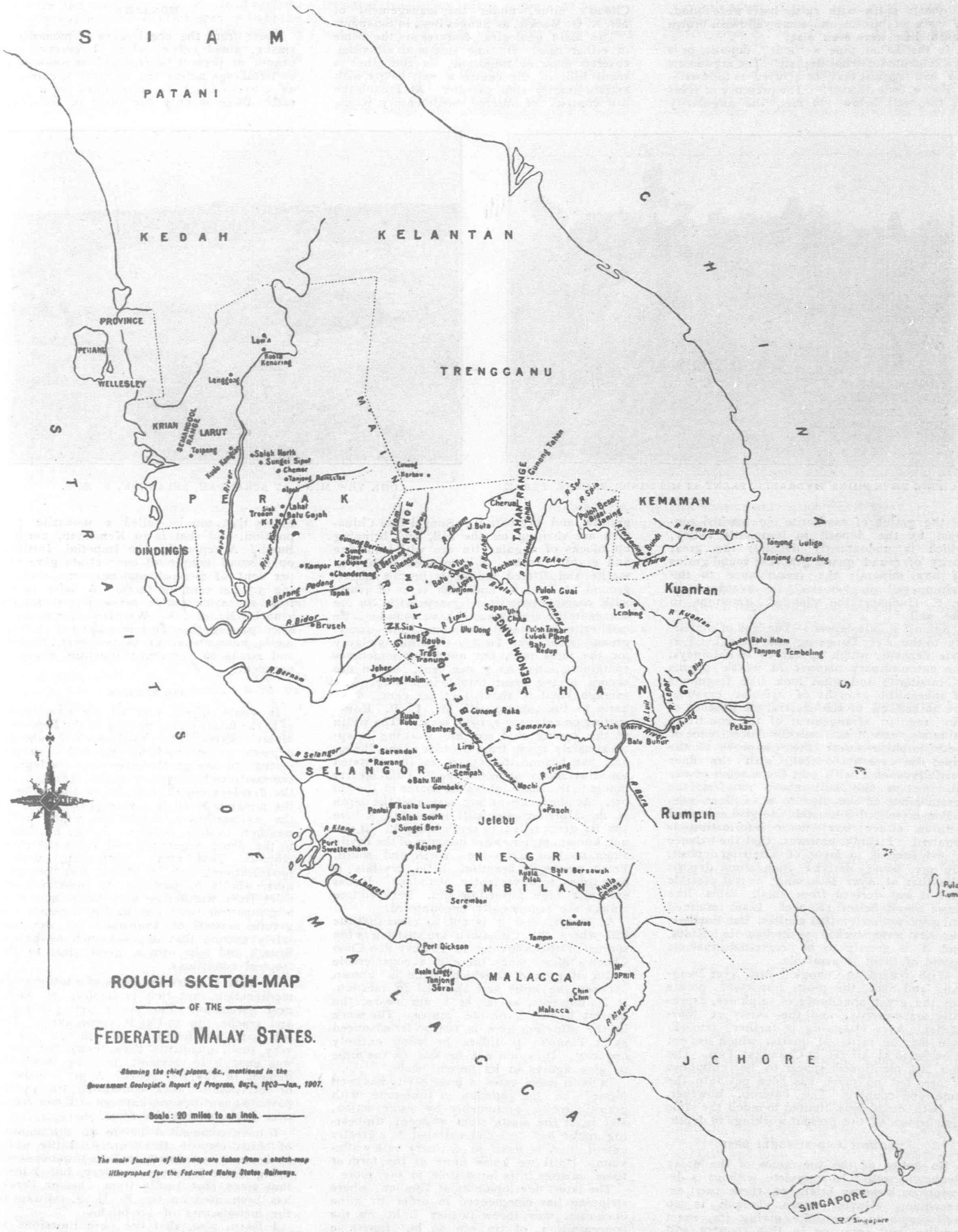
Of all the occurrences of tin ore in limestone in this country, the Lahat "pipe" is the best known. It is close to the village and is worked by the Société des Etains de Kinta. The pipe, which when I last saw it had been worked to a depth of 133 feet, and was showing signs of breaking up, is almost cylindrical and, roughly, 25 feet in diameter. It descends into the limestone at an angle of about 5 degrees from the vertical. It was filled with a hard, deep Indian-red ore consisting chiefly of limonite, calcite, and cassiterite. The junction with the limestone is sharp, but for a slight iron staining. Thin sections show that the cassiterite is for the most part angular, and consists of fragments of, or imperfect prisms jumbled up in a calcite base with masses of radiating needles. Similar treatment and microscopic slides revealed a few grains of quartz, some with distinct crystal outline. I have not found any tourmaline. Pyrite and chalcopyrite have been found near the limestone.

In my annual report for 1904, I said that no extension of the ore beyond the pipe had been proved, with the exception of a small cave at 80 feet, the floor of which was partially covered with ore of the same type as that in the pipe. At 120 feet, however, small veins were encountered running into the limestone country. I saw and collected as much as I could of one of these veins. It was a fissure at the most only one-eighth of an inch thick. The powder collected from it by treatment with acids was very small in quantity and consisted of pyrites, dolomite (?) apatite (?), muscovite, yellow tourmaline and cassiterite.

Concerning the slightly iron colored limestone at the junction it was at one time stated that it contained tin ore; and in October of 1905, the manager, M. Pasqual, picked for me some specimens of this stone on its way to the mill. As sampling chips from these in my office failed to afford any tin ore, I dissolved away a whole specimen, excepting a portion which was silicified and had to be crushed. Floating off the quartz by means of bromoform and converting traces of iron to chloride with strong acid, I obtained .083% of cassiterite. This I believe came from a small vein.

Vughs containing calcite crystals and sometimes chalybite, or some carbonate akin to it occur.

In October, 1905, the Société presented to the British Museum of Natural History a beautiful specimen of limestone traversed by veins, about one inch thick, of ore similar to that in the pipe. This came from about 133 feet, and it is hard to believe from an inspection of the specimen that it can be other than lode tin. Unfortunately I never saw the specimen in situ. Under the microscope the following points were noted concerning the ore from these small veins. Quartz grains which might be water worn occur. One or two round grains of zircon and one round grain of rutile were seen.



ROUGH SKETCH-MAP

— OF THE —

FEDERATED MALAY STATES.

Showing the chief places, &c., mentioned in the Government Geologist's Report of Progress, Sept., 1903—Jan., 1907.

— Scale: 20 miles to an inch. —

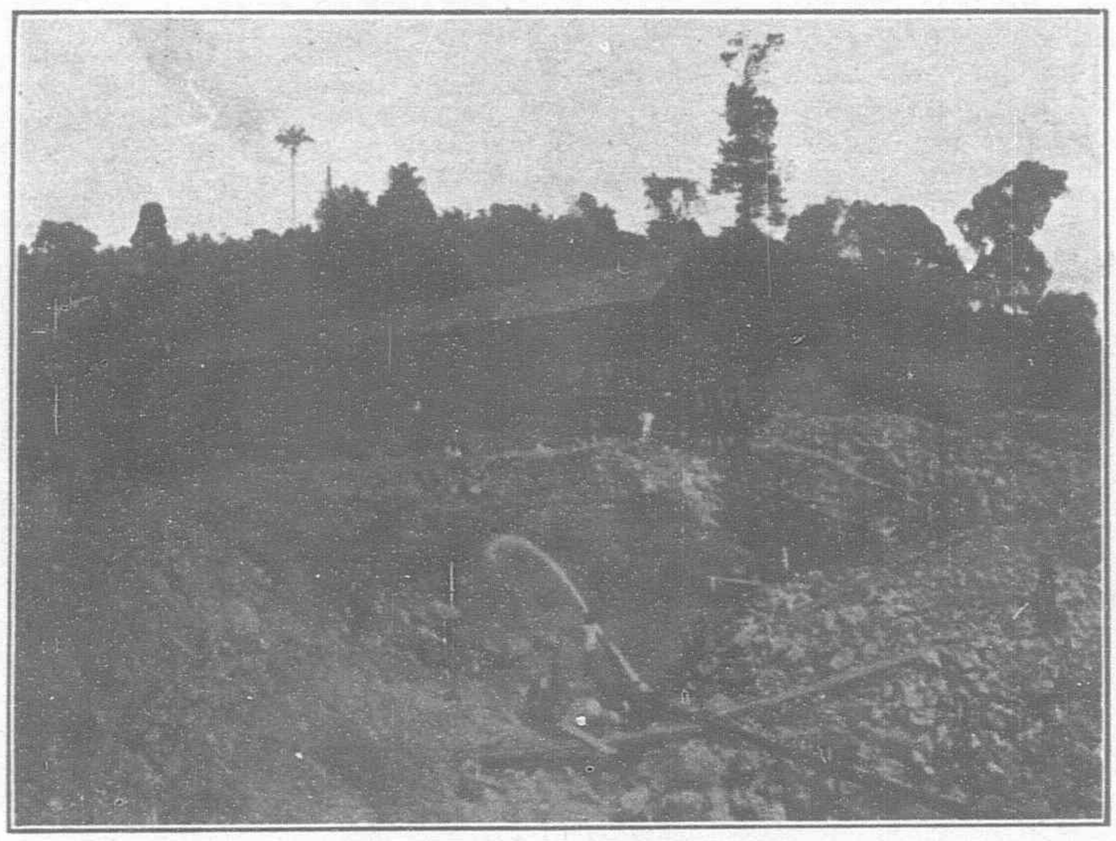
The main features of this map are taken from a sketch-map lithographed for the Federated Malay States Railways.

MAP OF THE F. M. S. MINERAL ZONES WITH PRINCIPAL MINES INDICATED. FROM "MINING JOURNAL."

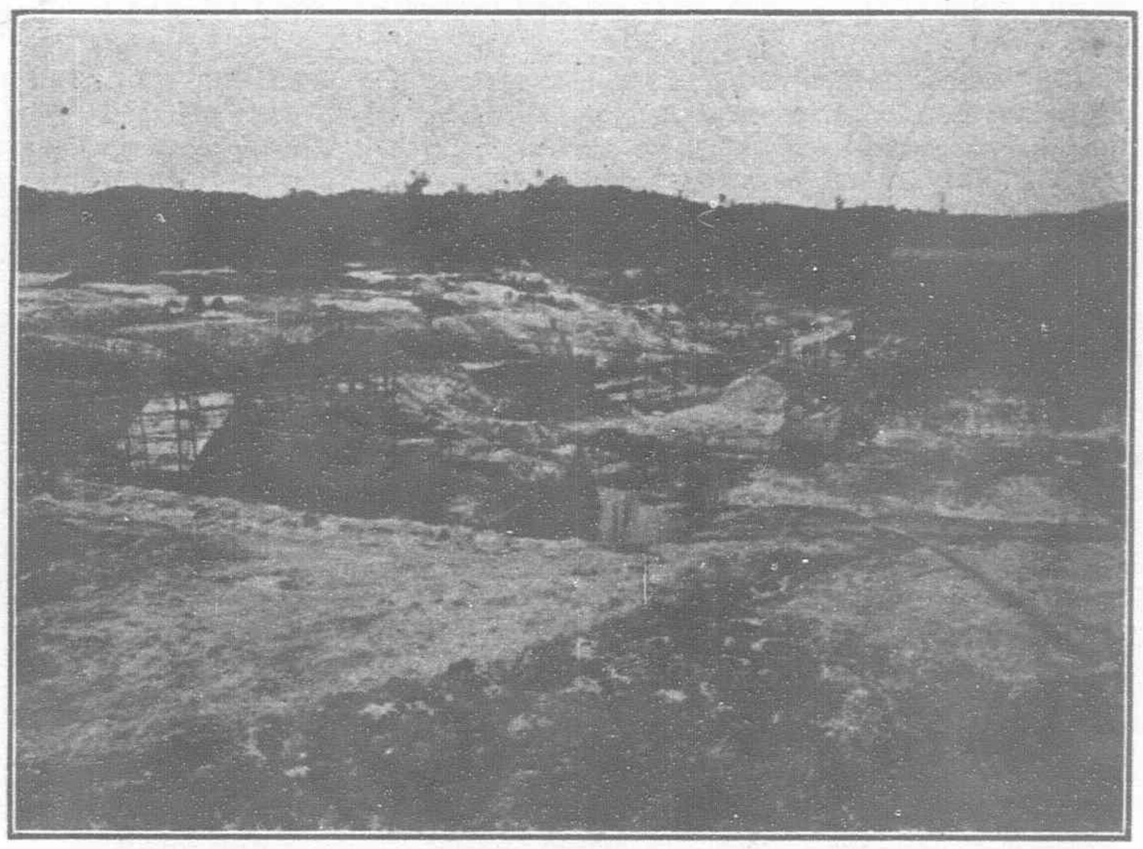
A quartz grain with rutile hairs were found. A trace of biotite and some yellowish-brown tourmaline were seen also.

Is the Lahat pipe a "lode" deposit, or is it a cemented detrital deposit? The arguments for and against may be arrayed as follows:—

For a lode deposit: The presence of veins in the wall below 120 feet; the angularity



CHUNG THYE PHINS' HYDRAULIC PLANT AT HIS MINES, TAIPING, PERAK



LOHE YEW MINE AT SERENDAH, SELANGOR, F. M. S.

of the grains of cassiterite, in marked contrast to the deposit in Jesophat's Valley, which is undoubtedly detrital; the great rarity of round quartz grains or round grains of any mineral; the resemblance to the "chimneys" or "stocks" in Rézbánya, in S. E. Hungary; the silicified limestone in the wall.

Against a lode deposit:—The lack of similarity to the Ayer Dangsang and Changkat Pari lode deposits, which appear to be chimneys; the extraordinary manner in which prisms of cassiterite and what look like fragments of spherulitic growths of acicular crystals, are mixed up in the matrix; the absence of any regular arrangement of the constitute minerals, except the occasional occurrence of fresh sulphides, near the periphery of the pipe; the cave at 80 feet, with the floor partially coated with ore; the absence of any tin ore in the wall above 120 feet; the resemblance of the pipe to a swallow hole.

For myself, I am unable to give a decided opinion either way: more information is required. I think, however, that the balance of evidence is in favor of a detrital deposit, the ore being derived from some deposit like that at Ayer Dangsang; or is it possible that it was derived from small veins like those found below 120 feet. I am informed on good authority that similar, but smaller, deposits were worked years ago in Kinta, and it is greatly to be regretted that no record of them is available.

With regard to Changkat Pari, Ayer Dangsang and Siak, the most important points are the great abundance of sulphides, especially arsenopyrite, and the rarity of tourmalite. Ayer Dangsang is further remarkable for the rarity of quartz, which has not been found at all yet at Changkat Pari. The two last mentioned appear to be chimneys of ore, but no drive has been put into the limestone country. The outcrop, however, in both cases, was limited to much the same dimensions as the present workings in depth.

TRONOH AND SUNGELI BESI

No notice of the tin mines of the Malay Peninsula would be complete without a description, however brief, of these two extraordinary alluvial mines. Tronoh is too well-known to necessitate giving its exact locality, and everyone in this country will know that I refer to Towkay Foo Choo Choon's mine, under the management of Mr. A. G. Mackie, at Sungei Besi, in Selangor.

The main geological features are the same in either case. On one side is an alluvium-covered mass of limestone, on the other a small hill, in the centre a vast cavity with extraordinarily rich pay-dirt. At Tronoh the hill consists of altered sedimentary rocks, granite, and pegmatite; at Sungei Besi Chinamen are shafting on the hill, and bringing up blocks of angular tin ore with ironstone and granitic rocks. I have seen both pegmatite and altered sediments in situ underground at Tronoh, and also veins of quartz with coarse cassiterite. Quartz with tin ore occurs in the alluvium. I have found a little cassiterite in altered sandstone from underground also. The Tronoh alluvium is clayey for the most part, but quicksand sometimes containing close on 3 per cent. of tin ore occurs, giving great trouble in mining. The average yield is about 1.47 per cent., or 25 katis to the cubic yard. Mr. J. P. Rowe, writing on February 2, 1905, says: "The width of the karang that we are working is approximately 150 ft. from the base of the Changkat, but beyond the 150 ft. as above stated the alluvium is unproductive." This clearly points to the small hill as the source of the tin ore. At the time of my last visit the depth of the alluvium was still unknown. A bore 160 ft. deep failed to reach bedrock. It was not known, either, what becomes of the cavity along its long axis—i. e., north and south. Fresh pyrite in beautiful little crystals is sometimes inconveniently abundant. It has evidently been formed in situ. Decayed tree trunks are occasionally encountered.

At Sungei Besi it is not so clear that the hill where the Chinamen are shafting is the source of the alluvium in Towkay Foo Choo Choon's mine, since there is a considerable width of ground of which little is known between the mine and the hill in question. It is, however, as far as I am aware, the nearest known probable source. The work in the alluvium here is not so far advanced as at Tronoh. It differs in being entirely opencast. It would not be fair to the mine to give figures in its present state.

In both these cases a huge cavity has been formed on the junction of limestone with granitic rocks, presumably by water action, and in it the waste from adjacent tin-bearing rocks has been concentrated to a greater extent than is usual in ordinary valley alluvium. Until we know more of the form of these cavities it is impossible to say more.

The latest developments at Tambun, where stripping has commenced in order to mine open-cast, may throw further light on the concentration of tin ore in big limestone cavities.

MONAZITE

Apart from the occurrences of monazite in amang, noted below, which, I regret to say, cannot at present be regarded as commercial undertakings unless the mineral is extracted as a bye-product in operations on a large scale, there is only one place in the native States that can be called a monazite proposition, and that is in Kemaman, north of Bundi. A report by the Imperial Institute on a small sample of concentrate gave 41.6 per cent. of monazite and xenotime, containing 5.3 per cent. of thoria. A later report from the same source on a larger sample sent by Mr. C. G. Warnford Lock gave, after passing through a wire sieve of 30 linear mesh, monazite about 58 per cent.; tinstone and zircon 26 per cent.; ilmenite about 15 per cent.

CONCLUSION

It would appear that all are now agreed as to the future of tin mining in the Federated Malay States. The easily-worked alluvial deposits are coming to an end, and on deeper-seated and low grade surface deposits depends the continued prosperity of the industry. In the development of deposits in the bedrock the miner is aided to a very great extent by the extraordinary depths to which rocks weather in this country, owing, no doubt, to the dense vegetation and the warm moist climate. That many tin-bearing granite modifications, rich in kaolin, owe their softness, wholly or partially, to something distinct from weathering may be deduced from a comparison with the kaolin deposits and granite masses of Cornwall; but we may safely assume that deposits such as those at Bruseh and Jehr owe a great deal to the tropical conditions.

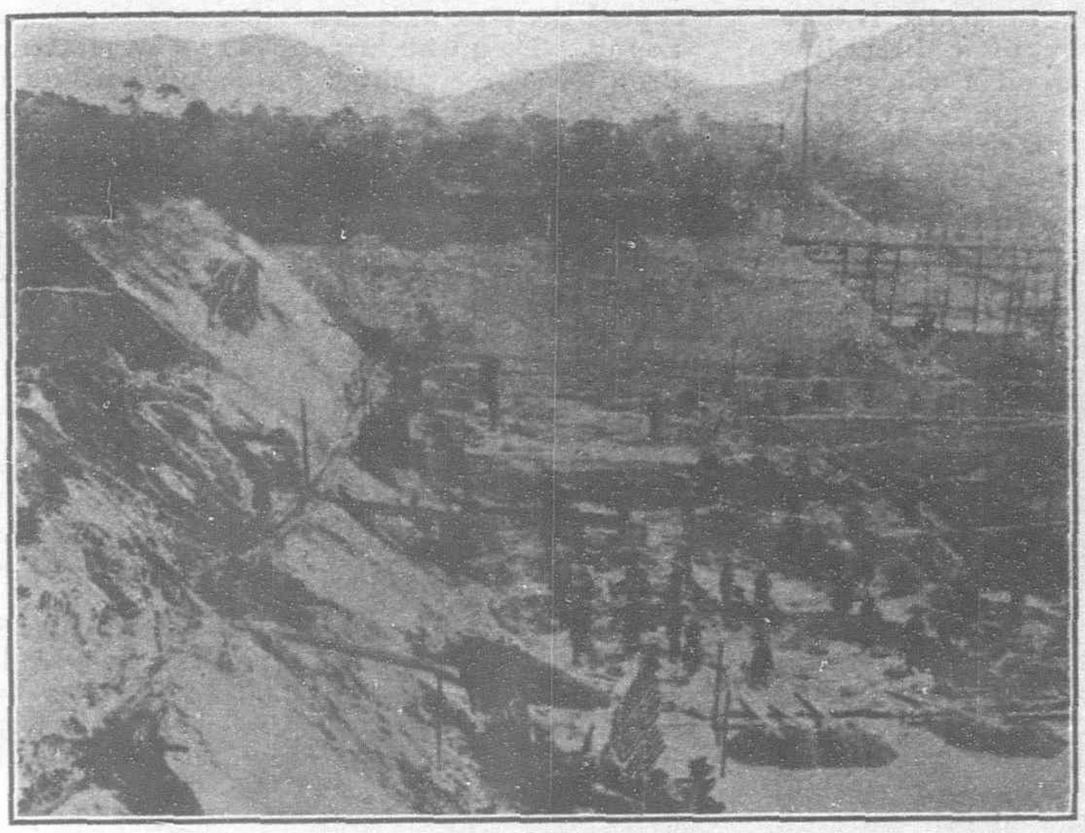
In 1904 I tested the depth of a soft granitic modification, not rich in kaolin, at Sudu, near Seremban. Two shafts were put down, and reached 39 and 51 ft. respectively. The soft rock was found to contain tin ore in very small quantities throughout, but there was enough to account for the workable deposit in the soil above. A good instance of soft granitic rock containing tin ore in payable quantities was exposed at Klian Meru, near Ipoh, during the same year.

I have commented before on the amount of china clay in this country. Little, as far as I am aware, has been done towards developing a local pottery industry, but I learn that since 1895 kaolin from Chemor, Perak, has been used on the F. M. S. railways in the manufacture of fire-bricks.

I learn, also, that the pure limestone of the Batu Hill, near Kuala Lumpur, is to be

used in the manufacture of Portland cement. The long gradation of calcareous rocks of the Raub Series should be worth attention as a material for natural cement for local use.

In the foregoing pages I have made use of much information obtained by the courtesy of managers of mines and others. If any inaccuracies should be found in the text, I offer my apologies.



TYPICAL ALLUVIAL TIN MINES IN THE FEDERATED MALAY STATES

ANOTHER VIEW OF THE SUNGEI BESI MINE NEAR KUALA LUMPUR, SELANGOR, F. M. S.

NOTE ON "AMANG"

I have purposely refrained, as much as possible, from the use of local terms in this report, but there is one term whose retention is abundantly justified by its great convenience—namely the term "amang," a Malay word signifying the heavy minerals that are the last to be separated from tin ore or alluvial gold. Amang is, in short, analogous to the "black sands" of placer mines, now in course of examination by the United States Geological Survey.

In 1905 I collected a large number of samples of amang for microscopic examination in connexion with the occurrence of monazite in this country. The analysis of these samples was by no means complete, but the following notes may be of interest: Ilmenite is the chief constituent. Magnetite and tourmaline are often abundant. Fresh pyrite has been seen. Cassiterite, zircon, rutile, anatase, brookite, scheelite, wolframite, corundum, topaz, garnet, and andalusite occur. Monazite is of frequent occurrence in small quantities. The Imperial Institute has furnished a report on a sample from near Kampar giving 1.5 per cent. monazite. Another sample from Kampar afforded abundant grains of a carbonate giving reactions for magnesium and iron. The grains were in shape like an hour-glass and in some cases like a dumb-bell. A specimen of tin ore with monazite from Ulu Sempan, Pahang, and reported on by the Imperial Institute, was found to contain 13 per cent. of monazite and 3 per cent. of columbite. From analyses by the Imperial Institute it appears that xenotime is not uncommon. In the gold workings of Ulu Dong, Pahang, the amang consists chiefly of abundant epidote and hornblende, ilmenite, zircon, anatase, and rutile.

Among the many Chinese beliefs concerning tin mining is one to the effect that if amang is left to itself tin ore will grow in it. At first sight this looks like some other Chinese mining beliefs, which may be frankly called superstitions; but if one considers the actual conditions, there appears to be good reason for it. Heaps of amang are commonly placed in the open, and they always, in my experience at any rate, contain tin ore. They are exposed to the frequent downpours of tropical rain. It might be expected, then, that the lighter particles in the amang would be gradually carried away, and, in consequence, the percentage of tin ore raised.

Gravel washed..... 159,537 cu. yd.
Gold extracted..... 1,346 oz.
Average per cu. yd..... 0.10125 oz.

The results cannot be considered as successful, since the exploitation of the dredges cost more than the gold extracted. The failure is explained by the fact that dredges constructed by Russian works, other than the Poutilov Works, have proved to be too weak to do the work, and their buckets were not large enough.

Two foreign dredges are working in Russia; one owned by Marshall, Son & Co., an English firm, and the other by the Conrad Company, organized in Holland.

GOLD DREDGING IN EASTERN RUSSIA

An interesting article on gold dredging in the Ural and Siberia from the pen of S. Bogovin, appears in an August number of the New York *Engineering and Mining Journal* and follows:

Gold dredges are of recent date in Russia and were put in use only five or six years ago. Bearing in mind that the gold-mining industry has existed in Russia over 150 years and remembering the primitive method of washing auriferous sands, the rejection of old plants alone ought to present a large opportunity for the work of dredges. Moreover, there are in Russia a great many rivers and lakes with auriferous channels, where dredges might be used. Eastern Siberia and especially the Amoor region, presents fields where American dredges might be introduced. The easy and cheap delivery of a dredge can be made, duty free, at Vladivostok or Nicolaievsk, on the Pacific coast, but initiative, energy and knowledge of local conditions are required.

The Permanent Consultive Office of the gold and platinum industries in Russia, which represents the interests of the gold and platinum industry of all Russia, has collected and recently published some interesting data on the production of the Ural and Siberian dredges in Russia in 1906. There are in all about 40 dredges working in Russia at present; information has been obtained as to the work of 32 of these. They extracted 43,081 oz. troy of gold and platinum in 1906; of this quantity there was 6472 oz. platinum and 36,609 oz. gold. The largest quantity of gold was extracted by the dredge of the Moscow Timber Industry Company in the Ural, which during 175 days saved 3338 oz., and washed 5,615,200 cu. ft., working 19.75 hr. per day on an average. This dredge was built by the Poutilov Works at St. Petersburg. The dredge is very solid, but the excessive price of these machines, from $75,000 to $85,000 each, prevents their general introduction. The price given includes the cost of the pontoon and the erection of the dredge on the spot.

The following average figures per dredge are from data given as to the 32 dredges in the Ural and Siberia:

Working days in 1906..... 173
Working hours in 1906..... 2837

Two foreign dredges are working in Russia; one owned by Marshall, Son & Co., an English firm, and the other by the Conrad Company, organized in Holland.

NEW INDIAN RAILWAY PROJECTS

THE MADRAS RAILWAY have obtained sanction for a survey being made, by their agency, for a line of railway from Singarayakonda to Kanigiri, a distance of 39 miles, and also for another survey being made, by the same agency, for a line of railway from KAVALI or Bitragunta to Udayagiri, a distance of 50 miles.

THE JODHPUR-BIKANIR RAILWAY are going to undertake the construction of the Borawar-Hissar Railway which will be two hundred miles long.

THE EAST INDIAN RAILWAY will, it is understood, take in hand the survey of the Bhagalpur-Naihati (or Admadpur) line next cold weather.

THE construction of several light railways is promised for the Province of Sind, a Karachi firm having applied to the Government of India for permission to form a company in England with a capital of £250,000 for financing the lines which will be about eight in number, *viz.*:—(1) Mirpur-Khasjudho; (2) Mirpur Khas-Sangur; (3) Shadipalli-Meboo Suboo; (4) Shadipalli-Samara with a possible extension thereof to meet; (5) Chor-Talla; (6) Mirpur-Buttora-Dindee; (7) Belo-Shah-bunder; (8) Hyderabad (or Kotai)-Karachi or Tatta-Karachi. It is proposed to take the Mirpur-Khasjudho line in hand at first and to raise £55,000 for its construction. The concessions asked for are a rebate from the traffic interchanged with the Jodhpur Bikanir Railway, which will construct and work the line towards a dividend of 3½ per cent. and others usually granted to branch line companies. The application is under the consideration of the authorities. —*Railways.*

HIS EXCELLENCY SIR FREDERICK LUGARD, C. B., K. C. M. G., GOVERNOR OF THE BRITISH COLONY OF HONGKONG

Sir Frederick is the son of the Right Hon. Sir Edward Lugard, Privy Councillor; and G. C. B., and was born on January 22, 1858. He is thus just under 50 years of age. From the Royal Military School at Sandhurst he received his first appointment—Second Lieutenant in the 86th Foot, now known as the second Battalion of the Royal Irish Rifles—on May 11, 1878, but he transferred in the following month into the 9th Foot, now known as the Norfolk Regiment. He received his baptism of fire in the "affair at Saidabad" during the Afghan war of 1879 80 and for this he received his first medal, says *The China Mail*. On January 1, 1881, he was promoted to Lieutenant and in 1885 he was on the march again, this time to the Soudan campaign, having already gained his captaincy. He was present at Suakin, was employed in the Indian transport, and was for the first time "mentioned in despatches." He was also the recipient of the medal and two clasps, together with the bronze star. Then Burma called and Sir Frederick came eastwards, again distinguishing himself in action, for we find him again "mentioned"—in fact he was mentioned thrice in this campaign, and in addition to getting another medal with two clasps was awarded the Distinguished Service Order, being gazetted in the "London Gazette" of September 2, 1887.

Then came the turning point of his life. He returned from Burma shattered in health and obtained a transfer to the battalion at home, reaching England in September, 1887. The brief spell in England did not restore him to health and he applied for and obtained temporary half-pay leave. Then he started out, as he himself puts it, with "fifty sovereigns in my belt and with practically no outfit at all except my favorite little .450 rifle" and went to Naples from Gibraltar. He was refused permission to join the Italians (then fighting against the Abyssinians) and went to Suez. Then he secured a deck passage on a timber-laden steamer for Massowa. He had to get along as best he could and he described his experiences with the crew and the Arab coolies and Italian roughs. One Italian, the boatswain, with whom he became friendly, burst out one night "I do anything for *you*. You want shirt I give you my own shirt off my back because you have good heart." Sir Frederick does not say whether he accepted the shirt or not. Finally Captain Lugard reached Lake Nyassa district and took charge of an expedition against the slavers. It was during this expedition that he received his most serious wound, of which he gives an account in his book "The Rise of our East African Empire."

In his description of an engagement with the enemy in which it became necessary to take a difficult position, surmounted by a solid mud wall perforated with loopholes and practically impregnable if properly manned. He writes:

"Passing a loophole a gun was discharged full in my face, almost knocking me down, and the smoke of the gunpowder nearly choked me. I suppose there was either no bullet or else it must have passed in front of me. It was difficult to know what to do. I thought the only way was to go straight over; so I shouted to every one to clamber over and began to do so myself. I had laid hold of a thorn bough to pull myself up by when a shot struck me and I fell in a heap in a sitting position, feeling a stinging burning sensation of a wound at the base of my chest—both arms being completely paralysed, or rather having fallen useless by my side. I thought I was shot through the body and of course mortally wounded. Had I reached the top of the stockade work, I should have had my head riddled with bullets as soon as it appeared above the mud wall, and have been instantly killed."

Meanwhile, finding the stockade quite impregnable the force withdrew.

"As for myself," continues Captain Lugard, "I found I had received a very singular wound. The muzzle of the gun must have been placed a few inches from my body, for the coarse grains of 'trade powder' had entered the right arm (which had been bared to the elbow) like a charge of shot and could not be dislodged, while two big lumps of wadding were extracted from the wound. The bullet had entered the elbow joint which fortunately escaped fracture (or I should have lost my arm), had struck the main artery, but pushed it aside without cutting it—or I must inevitably have bled to death; it then struck my chest, apparently in a direct line for the heart, but glancing off a rib, passed along under the skin and came out at the top of my breast pocket, making a long tearing flesh wound in its exit. Then it struck the wrist of my left hand, carrying into the wound a portion of some letters which were in my breast-pocket. It 'pulverized' the main bone of this arm, cutting also a minor artery."

On July 14, just a month from the date of the attack, Captain Lugard was able to dress, though his right arm was still rigid and fixed at an angle and his left still unhealed. He had, a fortnight later, owing to serious quarrels among the men, to resume the entire direction of affairs and take his turn at night watches, but in his first attempt the stumbling along the rough paths in the dark so jolted his wounded arm as to cause intense pain and a relapse which confined him to his hut, and eventually, as the doctor had to proceed elsewhere, Captain Lugard was induced by him to travel with him to the nearest medical mission station, where while recovering his health he drew up his scheme for the suppression of the slave-trade in Nyassaland and then returned to Karonga's.

Captain Lugard did not remain long away from Africa, for in 1889 he accepted service with the British East African Company, as Administrator of Uganda. When he arrived he had to contend with hostile natives, particularly with Mwanga, the king of Uganda, with whom he had instructions to arrange a treaty, in pursuance with the terms of the Anglo-German agreement of July 1, 1890. He arrived at Mengo and visited Mwanga, whom he describes as a "semi-savage king, noted for his cruelty and incapacity." The treaty was presented on December 24, 1890, but though the chiefs were willing to sign, Mwanga hung back and for a time it seemed as though hostilities were inevitable. However, Captain Lugard succeeded in averting an open rupture and two days later the treaty was signed, Mwanga putting his mark to the document wirh very bad grace. How tactfully Captain Lugard went about his work of reorganizing practically every thing in Uganda may be judged from the following extract from a letter written by Mwanga to Queen Victoria in July, 1892, eighteen months after the treaty was signed. "I want you to send this same Captain Lugard back again to Uganda," wrote Mwanga, "that he might finish his work of arranging the country, for he is a man of very great ability and all the Waganda (natives) like him very much; he is gentle; his judgments are just and true and so I want you to send him back to Uganda."

However, Captain Lugard did not return, having more urgent calls. In 1894 occurred one of the most striking incidents in his life, an incident which marked him as being not only a man of tact, but one full of resource. The Royal Niger Company already had concluded treaties with the Kings of Borgu and Gurma, and it was reported that the French were about to make overtures to the King of Nikki, whom they regarded as the rightful King of Borgu. Naturally this was looked upon as an attempt to weaken the position of the Royal Niger Company and though they did not share the same faith as France, the company decided to doubly protect themselves by securing a treaty before France could do so. However, France got the start, for Captain Decoeur left France on July 24, 1894, bound for Dahomey. Then the Royal Niger Company secured the services of Captain Lugard and four days later he left England determined to reach the King of Nikki first. On November 10, Captain Lugard saw the King of Nikki and had the treaty signed, five days before Captain Decoeur arrived. It was a signal victory and strengthened the position of the Royal Niger Company. Just after this Captain Lugard received his C.B.

In 1896 he was in charge of an expedition to Lake Ngami for the British West Charterland, and he was then promoted Major. The following year he was offered and accepted the post of Commissioner of Nigeria and Lagos. Then he raised the West African Frontier Force, which he commanded during the operations on the Niger in 1897-8, being promoted Lieut-Colonel, on half pay. He also received the medal and clasp for this expedition.

It is only six and a half years ago that the protectorate of Northern Nigeria was taken over and Sir Frederick was then (January 1, 1901) appointed High Commissioner, with the rank of Brigadier General, and at the same time he received his knighthood—K.C.M.G. He was not destined to occupy his position with peace, for in the first year of his Commissionership the operations against the forces of Bida and Kontagora began and in 1903 he was in the campaign against Kano and Sokoto.

His life has been one of excitement. Seldom during the last 21 years has he had much leisure and now that he has been appointed Governor of Hongkong it is hoped he will be able to gain more rest than has hitherto been his lot.

Lady Lugard, who shares her brilliant husband's popularity, was a wellknown special writer on the London Times' staff. As her name previous to her marriage in 1902 was Miss Flora Shaw and her South African sketches referring to the now famous Jamieson Raid as well as travels through Australia, Canada and the Klondike, an account of which appeared in the Times made her famous. Miss Shaw was called before the House of Commons Committee in regard to the Jamieson incident but gave little information. Commenting on the appointment of Sir Frederick to Hongkong the China Mail says:

"Hongkong is favored by the appointment of Sir Frederick Lugard as Governor, and the fact that Lady Lugard is accompanying her distinguished husband enhances the honor. Nigeria's loss is Hongkong's gain."

MESSRS. CADWALLADER & CO. SECURE VALUABLE TIMBER CONCESSION IN THE PHILIPPINES

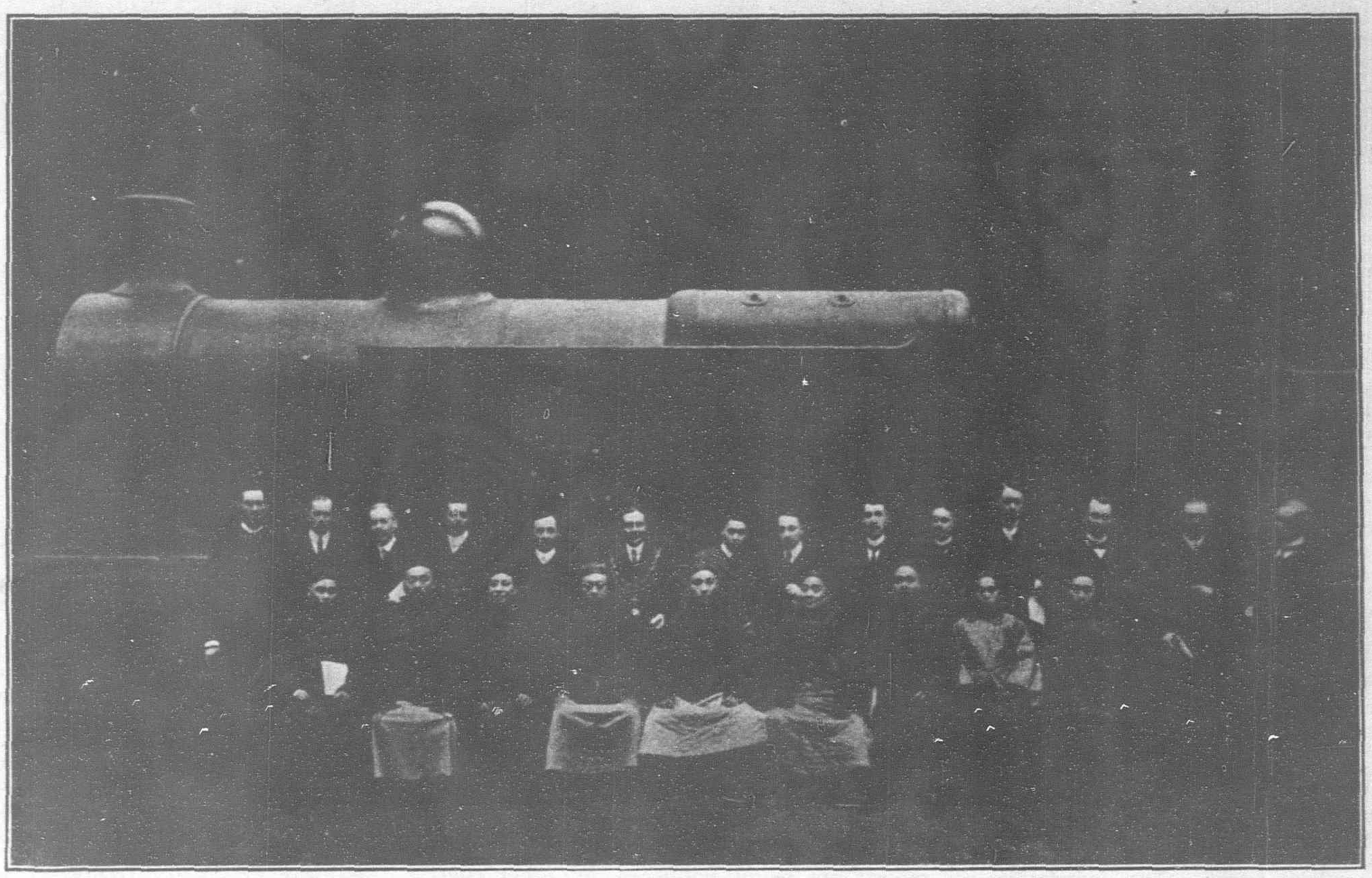
Messrs. B. W. Cadwallader & Co., the pioneer American lumber merchants of Manila, have secured a timber concession from the Philippine government covering an area of 90 square miles in the public forests of Bataan province. Of this forest reserve at least 70 square miles in area is covered with marketable timber, estimated in B. M. to amount to at least 700,000,000 feet. The woods in this concession are the apitong, tanguile, guijo, lauan besides a quantity of superior group woods and the area covered lies between the Bagao and Balagua rivers including the mountain of Mariveles.

The company will proceed at once to the development of this valuable tract and have already completed plans that will entail an expenditure of ₱500,000. Sawmills will be established at convenient distances from the different zones and tramways with a winch system for snaking will make the timber available at the least possible cost at the mills.

The Philippine government has been advertising this concession for some time and there were a number of bidders, but when the tenders were opened that of Messrs. Cadwallader & Co. proved the most favorable. The license agreement between the company and the government provides that the rights of the residents within the tract are to be respected in accordance with the forestry provisions, in the acquisition of timber for personal use.

OPENING OF THE WUSIEH-CHINKIANG SECTION OF THE SHANGHAI-NANKING RAILWAY

The trial trip from Shanghai to Chinkiang on the Shanghai-Nanking Railroad was made on October 2 and the new section between Wusieh and Chinkiang was thrown open to traffic, October 15. The road is now in operation for about 150 miles and this distance was covered on the initial trip in a little less than four hours running time or an average of thirty-seven and one-half miles an hour. The highest rate of speed made during the trip was 59 miles an hour. A special train provided with an observation



VISIT OF THE CHINESE COMMISSIONERS TO MESSRS. ROBERT STEPHENSON'S LOCOMOTIVE WORKS AT DARLINGTON

car left Shanghai at 6:50 a.m., arrived at Chinkiang at 11:43 a.m. The officials who took the trip were Messrs. A. H. Collinson, M. I. C. E., Engineer-in Chief; H. P. Winslow, Deputy Traffic Manager; E. J. Dunston, Locomotive Superintendent, and the representatives of the press. In describing the trip to Wusieh the representative of the North China Daily News states that the big silk center was reached in two hours and one minute. The distance between these two points is 80 miles. The ride between Wusieh and Changchow, a distance of 24 miles, was made in 26 minutes and it was on this stretch that the 59 miles an hour record time was made. Tanyang was reached at 10:27 and the train started out on the last stretch to Chinkiang at 10:35 reaching the end of the twenty mile section at 11:43. The following comments on the road are taken from the report of the initial trip by the representative of the North China Daily News:

"All the stations on the line are substantially built and ample accommodation is provided, so that large traffic, passenger and freight, can be dealt with. The Soochow station has a particularly fine set of buildings, a first-class refreshment room, equipped to meet the demands of the most fastidious passenger, being a new feature calculated to be much appreciated by travellers.

"At Wusieh a large traffic is already being done in tribute rice and silk cocoons. Since the railway has been opened to Wusieh it has been found necessary to quadruple the godown accommodation to enable the company to deal with the rice and silk cocoon freight.

"Changchow is a great trading centre and considerable traffic in live-stock is done. Tanyang station has not been opened yet, but a heavy traffic in cattle is anticipated, as it is expected that Tanyang will ultimately become a large centre for the reception of cattle for the Shanghai market.

"Chinkiang, situated on the Yangtze at a point where the Grand Canal enters the river, will provide large numbers of passengers and considerable freight. Owing to the tunnel under Fort Hill being still incomplete it has been arranged to open a temporary station at the east end of the tunnel, but the permanent station, which is at the west end of the tunnel, is now nearly complete. The company has built a branch line down to a jetty which stretches for a considerable distance out into the river and passengers and goods landed from steamers and boats at this jetty will, therefore, be rapidly dispatched to their destination.

"From Chinkiang to Nanking is forty-four miles and at present over twenty miles of the permanent way has been laid, so that by the time Fort Hill tunnel is built the railroad from Shanghai to Nanking will be almost ready for traffic throughout its length. On Wednesday afternoon I paid a visit to the tunnel, one of the most important works on the Chinkiang Division, and found that the engineers had worked through the hill from west to east except for a distance of some 180-190 feet. The tunnel will be about a third of a mile in length and it is being constructed to take a double line, although for the present only a single track will be laid. The engineers are making their way through very hard sandstone rock, the roof being arched out first and lined with brickwork in cement, while in some places it has been found necessary to line the side walls. Under the invert of the tunnel a large culvert is being built in red brick and concrete. Hundreds of men are engaged in this part of the construction works, those laboring in the tunnel doing so by the aid of electric light. It is expected that the tunnel will be finished by the end of the present year and it is probable that during February 1908 it will be possible to run trains through from Shanghai to Nanking."

The locomotives on this road were manufactured and supplied by the well-known firm of Messrs. Robert Stephenson & Co., of Darlington, England. They are described as Four-Coupled Passenger engines, ten of which are now in use on the road. They are fitted with brass tubes, copper fire boxes and Westinghouse brakes. The following are the dimensions of the locomotives: gauge of railway 4′:8″; cylinders 18′ diameter, 26′ stroke; coupled wheels 6′:7″ diameter; fixed wheel base 8′:3″: total wheels 25′:2″; heating surface-tubes 1467.39 square feet, firebox, 162.61 square feet, total, 1670 square feet; Grate area 28 square feet; working pressure-180 pounds to the square inch; tractive force-17,250 pounds; weight of coupled wheels 37 tons, 2 cwts., weight on front bogie 19 tons 11 cwts.; weight on hind bogie 19 tons, 11 cwts.; total weight in working order 56 tons, 13 cwts. The tender wheels are 3′:6″ in diameter and the fixed wheel base is 13′:0″ with a total of 13′; tank capacity-3500 gallons; fuel capacity 7 tons; weight in working 41 tons, 14 cwts. making a total weight of engine and tender 98 tons 7 cwts.

The following are the executive engineers engaged on the line:—Mr. A. C. Clear, Soochow Division; Mr. B. T. B. Boothby, Wusieh to Chinkiang Division; Mr. J. G. Barkley, Chihkiang to Nanking Division.

CANTON-HANKOW RAILWAY

An important meeting of the directors of the Canton-Hankow Railway was held at Canton, October 16, at which a resolution was adopted providing for monthly reports on the progress of the work of construction and operation from the different departments in future in order to keep the shareholders fully informed and at the same time allay the disaffection occasioned by the spread of false rumors. The Hongkong Telegraph's correspondent writes:

The question was discussed as to how the different statements relating to progress reports and financial statements for publication should be made. It was decided that, commencing from the 8th moon, a monthly report of the conditions of surveying and building, purchasing of land, financial standing and the running of trains of the previous month should be published. The object of this publication is explained as follows: Since the issue of the Imperial Edict ordering the opening of the work of the Canton-Hankow Railway last year, all the shareholders' attention had been directed to the surveying and building work, financial administration, purchasing of land and materials, machinery, godowns, buildings and all the other assets and cash accounts of the Company. The first section of the main line was opened to traffic this summer and the head-station was established. More than half of the rails of the second section has been laid and that will soon be opened to traffic. The foundation for the third and fourth sections has been nearly completed, while the work for the fifth, sixth and seventh sections is being carried on. The whole length of those seven sections, extending from Canton to the district of Ying Tak. measures over 200 *li* and occupies one-third of the main line to be built by this company whose monthly balance sheet and report of this year deal too generally with the abovementioned details. The reason that so many differences have arisen in the past is because the large and small shareholders are alike kept in ignorance of the true nature of the company's doings, therefore they were liable to believe all sorts of false rumors. It is desirable that such errors should be remedied. But the general suspicions cannot be dissipated unless a true account of all the operations of the company is published once every month. It must be done by filling in the different returns of the various departments together with a general report on the whole. Shareholders can easily refer to these statements when they want to find out anything and ascertain the particulars as though they had been in person to witness the operations. Then they will entertain no more suspicions and no doubt will exist amongst them. It is not only that the character of the officers will not be tarnished by suspicions of dishonesty, but every one will be willing to pay up the 2nd and 3rd calls on their shares It is unquestionably our duty to allay all difficulty arising from disagreements between officers and shareholders who lay a great responsibility on our shoulders, and we should therefore conduct all the business of the company in the most straightforward and conscientious manner to the satisfaction of everybody concerned. We prepare a general return for each item as follows:—

(a.) Engineering department: the work of each section, the condition of every godown or workshop during the month.

(b.) Land purchasing department: the condition of every piece of land purchased during the month.

(c.) Financial department: every detail of receipt and payment, together with all cash transactions done within the month.

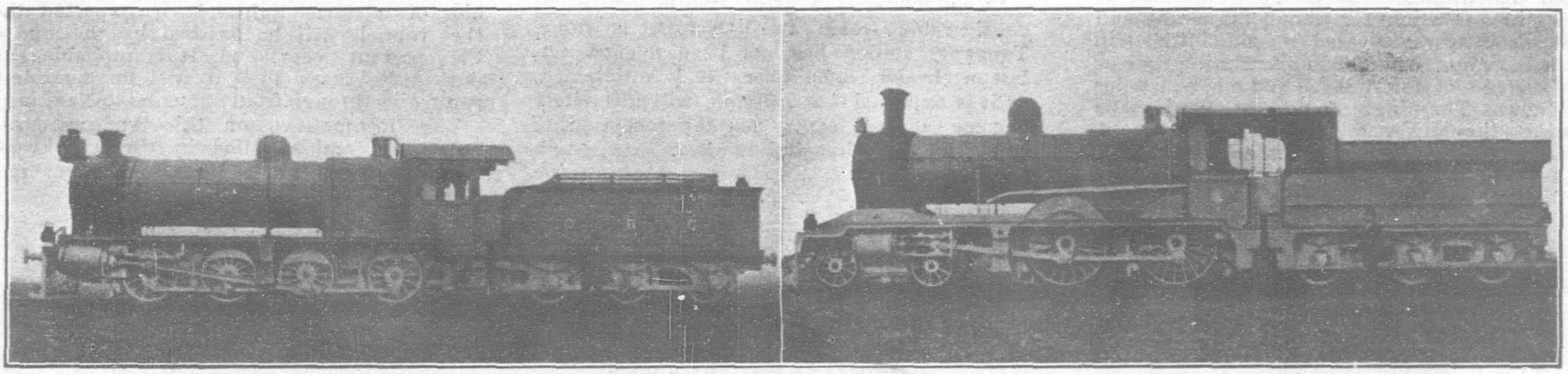
(d.) Railway trains department: daily receipts of 1st, 2nd, and 3rd class passengers, their number, freight, number of cars running each time.

The 8th moon has now passed and it is the duty of the directors to ask the President or the Chief-manager to publish the report for that month according to the returns together with remarks and minute explanations thereon wherever required. The 107th clause of the Commercial Ordinance states that the board of directors must, at the end of every year, direct the president or general manager to make an annual report and balance sheet of the accounts of a company. This must be done at least once in every year. When the Ordinance says "at least once" naturally it carries the meaning that more than once will be more appreciated, or in other words, the oftener the better. Besides, practice makes every work perfect. Monthly reports are being published by other companies and these returns are intended to make every item most explicit and easy for reference.

Those accounts that have to be audited must be handed over by the president, vice-president, or general manager to the auditors; and, when they are found to be correct, are to be published through the board of directors for the benefit of all shareholders at home and abroad. We, the directors, are representing the shareholders who rely on us for information. The chairman of committee should read the annual report before the shareholders present in accordance with the 48th clause of the Commercial Ordinance. Now we are going to publish a monthly report through the vernacular daily-papers which will prove that the officers are trustworthy and the distrust entertained by shareholders be thus allayed. Please decide whether these statements are properly made out, and, if so, they are to be handed to the chief manager who will be directed to have them filled by the different departments with particulars of their actions during the 8th moon. Please also decide whether there is anything required to be done at present and the manner in which it should be done.

Resolutions were passed (1) that all the passenger-tickets must be stamped with the seal of the manner of trains and are to be counter-stamped with that of the Financial Manager, who will report the number of tickets of each class thus stamped to the president every time. The manager of trains and the financial manager must each keep a book entering clearly the numbers of these tickets so as to be easily examined by the auditors; and (2) that the returns for the surveying and engineering department must be filled in and a report submitted and published every month. The distances of the different sections of the main-line vary, therefore the report of each section must be published the day it is presented to the head-office. The returns for the landpurchasing department, and the balance-sheet of the financial department together with all the cash investments made by the company, must be published once every month while the statement of receipts of each section will be published every ten days.

All these returns are suitable for present use and they are to be handed to the chief-manager through the vice-president.



LOCOMOTIVES IN USE ON THE SHANGHAI-NANKING R. R. AND THE OTTOMAN R. R. BETWEEN SMYRNA AND AIDIN: BUILT BY MESSRS. ROBERT STEPHENSON & CO., LTD., OF DARLINGTON

FEDERATED MALAY STATES RAILWAYS

The Federated Malay States Railways, owned by Government, included 396 miles 32 chains of open lines on January 1, 1906, and 63⅓ miles under construction (since completed). The Railway Administration are constructing a line (the Johore State Railway) for the Johore Government, from Gemas to Johore Baru, a distance of 120½ miles. No other lines begun or authorised but trial surveys for railways in the State of Pahang have been made and surveys completed for light railways (Tapah Road to Temah and Ipoh to Tronoh), in Perak.

The Sungei Ujong (Malay Peninsula) Railway Co., Ltd., Dashwood House, of New Broad Street, London, E. C., own the Sungei Ujong Railway, whose length is 24 miles 67 chains.

Straits Settlements.

The Singapore Kranji Railway, owned by the Straits Settlements Government, comprised 15 miles of open line and 1 mile ferry at date of despatch. Four miles 69 chains were then under construction and are probably now open also. No further construction was authorised. Other railways in the Colony are branches of the before-mentioned F. M. S. Government Railways.

Straits Settlements (Labuan).

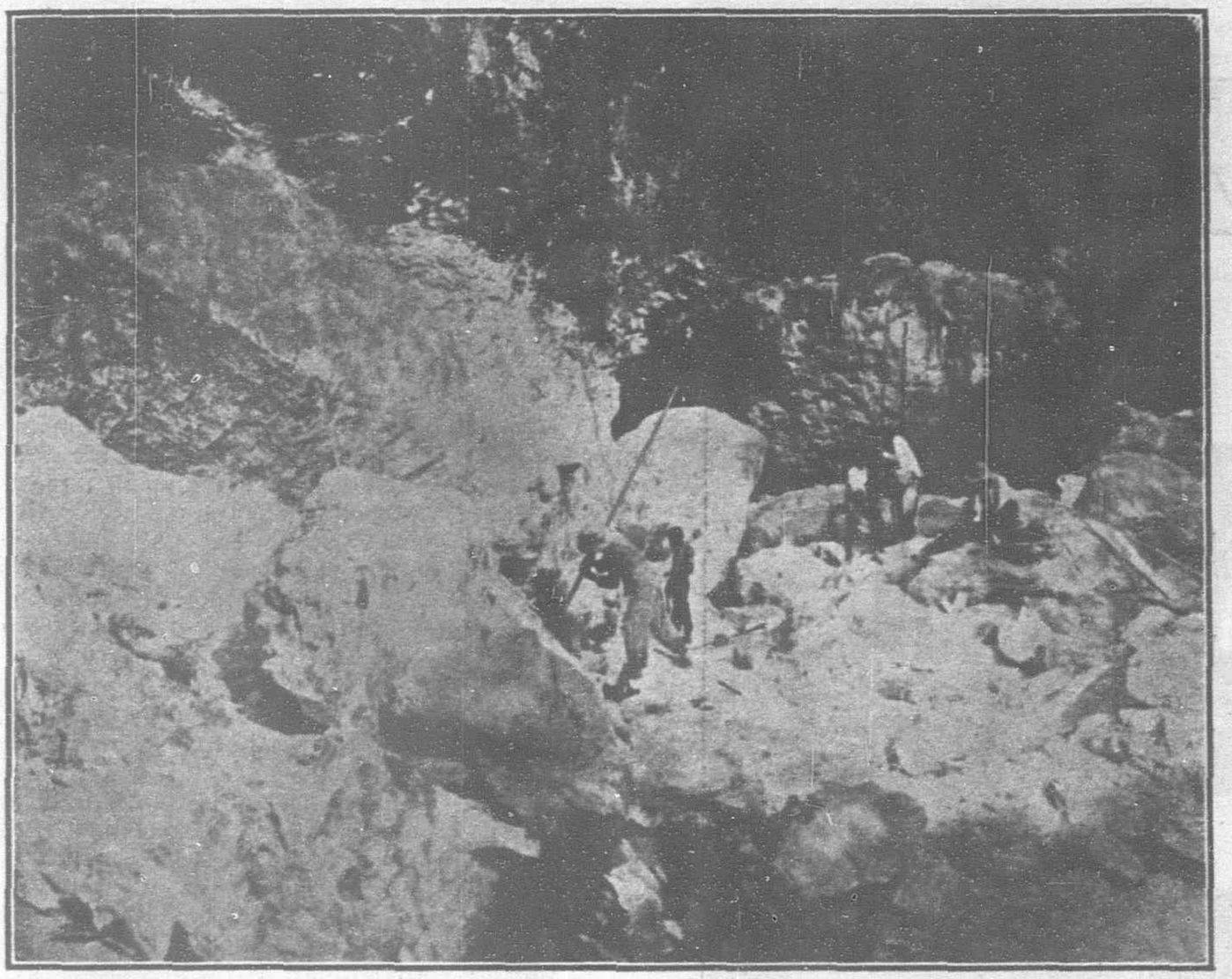
The Labuan Coalfields Co., Ltd. (A. Vanscolina, Sec.), 28, Fenchurch Street, London, E. C., own a railway in Labuan 10 miles in length (or including sidings, about 16 miles), principally used for the transport of coal from Chin coal mines to Victoria Harbour. —*Commercial Intelligence*.

CORRECTION IN ADVERTISEMENT

Through a misplacement of the wording of the advertisement of The Hotel Pines at Baguio, it was made to appear that the hotel owned polo grounds and golf links. This reference was originally intended to apply to the attractions of Baguio instead of the hotel. The correction is made at the request of the modest management of this delightful home in the hills, the many attractions of which cannot possibly be properly presented by the most experienced advertising expert.

OPENING UP THE BULACAN FOREST RESERVE

The Philippine government has authorized the expenditure of ₱6,600 for the removal of obstructions in the Bayabas River near Norzagaray so as to make a vast tract

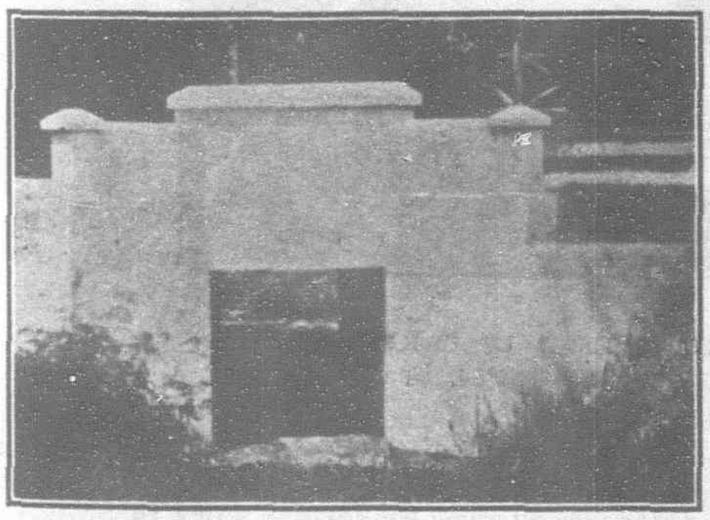


REMOVING OBSTRUCTION FROM BYABAS RIVER NEAR NORZAGARAY, BULACAN, PHILIPPINE ISLANDS, WHICH WILL MAKE A VAST TRACT OF HARD WOOD TIMBER ACCESSIBLE

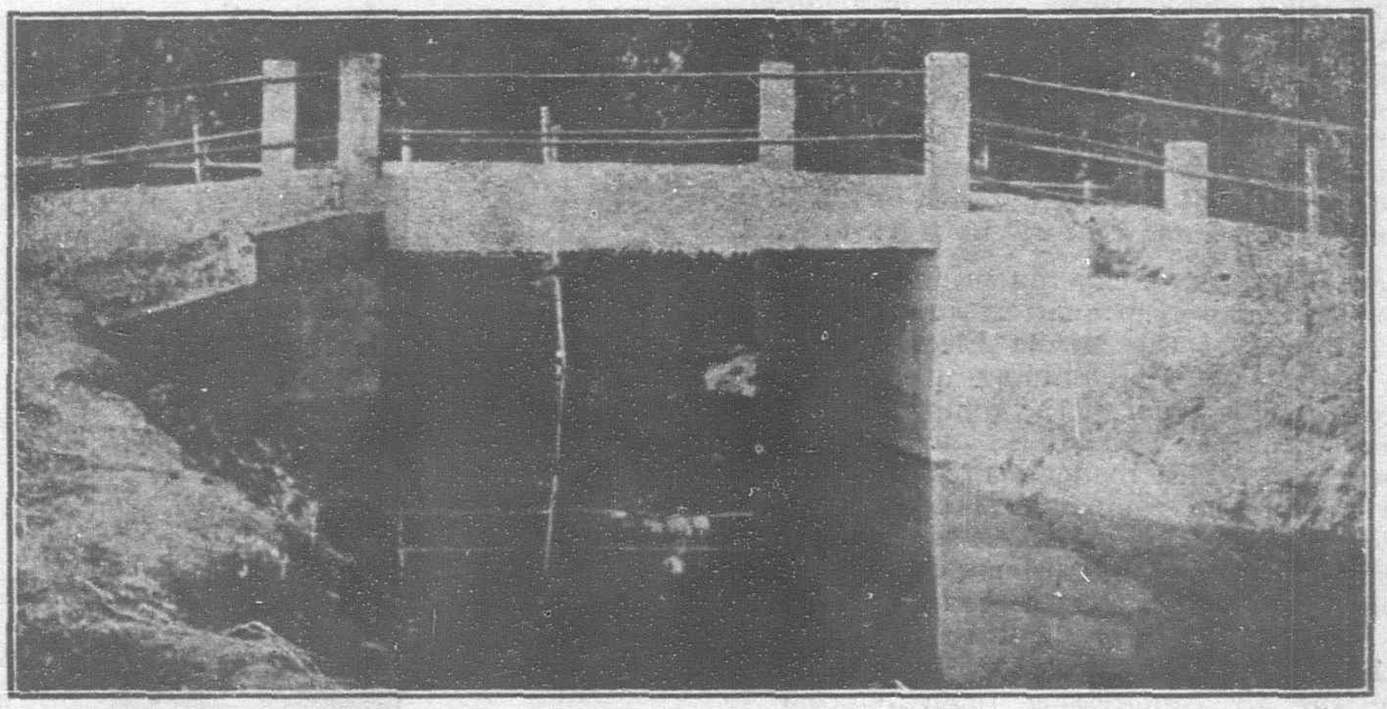
of hardwood timber available. The timber from this tract has heretofore been taken down the river in rafts at high water but as it became necessary to proceed farther up the river the bolders made the navigation very dangerous and, after a few lives were lost, it was practically abandoned. With the removal of these large obstructions now being done by the Bureau of Public Works, there will be no obstacle to the development of the lumbering industry of Bulacan.

MOJI'S DOCK PROJECT

The *Asahi* publishes a Moji letter to the effect that early this year it was decided to construct a dockyard at Tanoura, Moji, with a capital of Yen 16,000,000, and a company has been formed under the style of the Moji Dock Co. Mr. Loonen, who, as already reported in our columns, returned to Japan a few days ago with a number of influential French capitalists, is reported to be entrusted with Yen 16,000,000, with which the proposed dockyard is to be constructed, largely extending the works, reclaiming the sea-front from Yamagahana to Tobigasuhana, Moji. An application for a charter of the works, which was made on June 1st, has been amended. The new application gives the details of the work as follows:—The principal object of the undertaking is the loading of coal and the repair of vessels. A coal depot will be built at Okubo, a tunnel being constructed between Moji and Okubo to connect the Kyushu Railway and the depot. A stretch of the sea-front from Yamagahana to Tobigahana by way of Okubo, Aki-hiraki and Tanoura is to be acquired, covering an area of about 75,340 tsubo. The wall of the sea-front of the reclaimed land will be constructed with concrete blocks. The stone obtained from cutting the Okubo tunnel and the dock will be used for reclaiming the sea-front. The depth of the water from the front of the reclaimed land to the front of Okubo will be 30 feet at low tide allowing a steamer with a draft of 27 feet to go alongside. The sea off Tanoura will be dredged to a depth of 20 feet. The principal works on the shore will be a railway line between Moji and Okubo, the construction of a coal depot, a canal to Tanoura, two slipways and two dry-docks, in addition to coal-loading cranes and coal weighing scales, and engine works for the construction and repair of vessels. The coal depots will be erected at Okubo and on the reclaimed land, where covered sheds will be erected for special qualities of coal. Two slips will be constructed to the east of Yamagahana, one large enough to accommodate a steamer of 1,500 tons and the other for smaller steamers. The engine works will be constructed near the slips. Two extensive dry-docks will be built. French engineers are expected to arrive shortly, and the plan may be amended upon their arrival. The letter adds that if the charter is granted to the proposed works, it will be necessary for the company to purchase small shipbuilding yards at present dotting the sea-front between Tanoura and Okubo, and it will also be necessary for the company to have a definite understanding with the Moji Municipality on the question of the compensation payable by the company for the use of the whole sea-front of the eastern part of Moji. It is believed, however, that an understanding has been come to between the Municipality and the company to exempt the latter from the imposition of a special municipal tax. The proposed works, when completed, will prove a heavy blow to coal lighters in the harbor and the accommodation made by the Kyushu Railway at Wakamatsu and Tobata for loading coal, and strong competition may ensue between them and the new company.



CONCRETE CULVERT CONSTRUCTION IN PHILIPPINES



TYPE OF CONCRETE CULVERT IN THE PHILIPPINES

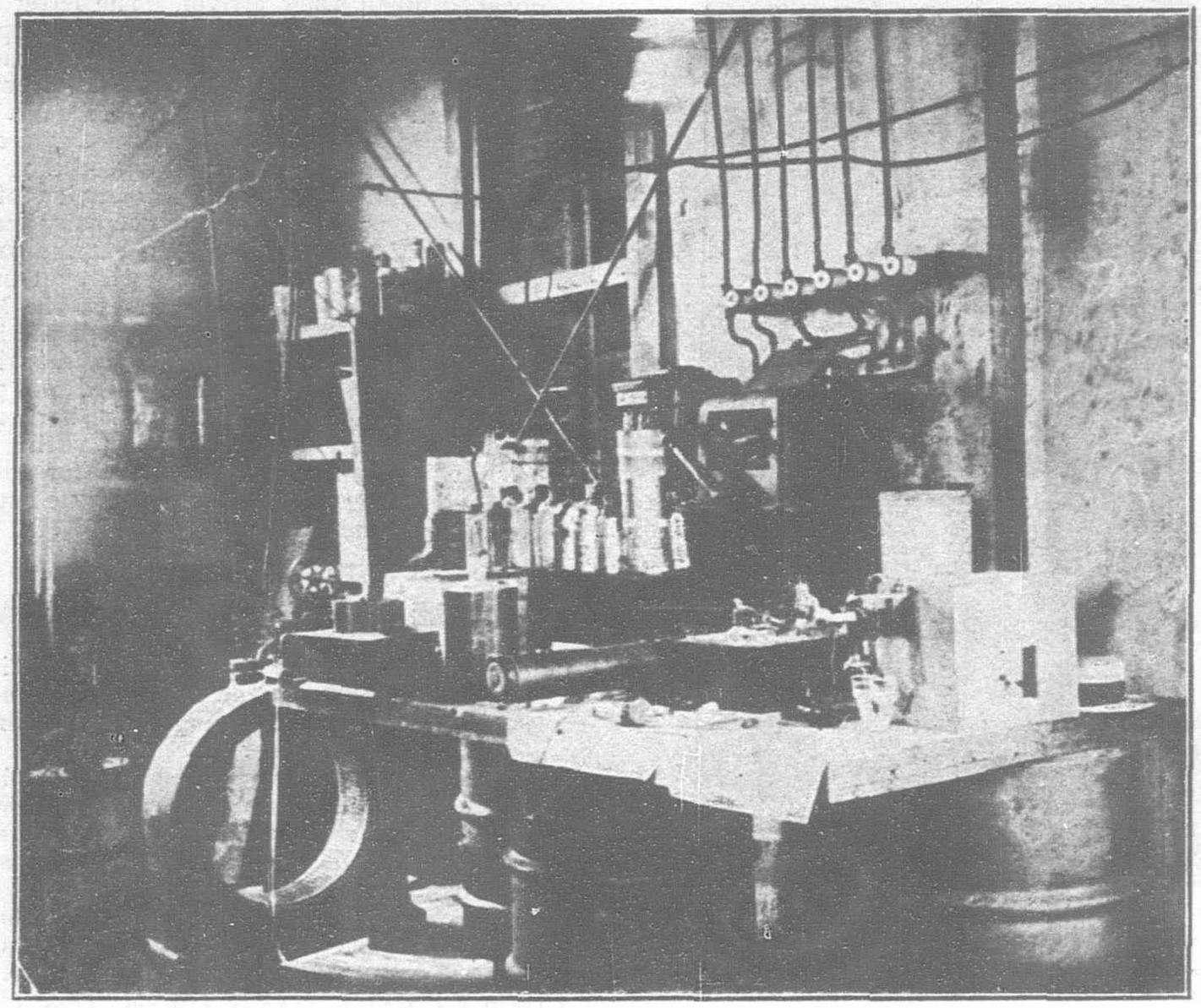
TERRIBLE DAMAGE BY FLOOD IN JAPAN

Some idea of the extent of destruction of property in Japan in the recent floods may be gathered from the following excerpt from the *Yokohama Advertiser:*

"From the reports appearing in these columns during the past few days, it can easily be imagined that the total damage is enormous. Of the public properties the railways have suffered most. When to this damage are added the losses caused by the destruction of bridges and public roads, the total damage exceeds -Y-10,000,000, according to the estimate of a certain civil engineer in Tokyo. Next may be counted the damage caused to the crops, which, in the opinion of the same authority, does not amount to a very important figure. At the present time, if the paddy is submerged for a few days, the damage to the crop would be comparatively light, as the ears are not yet out. Mulberry leaves for autumn sericulture may have been destroyed, but the districts which have suffered in this connection are limited. Crops of beans, fruits and vegetables, however, may have been damaged to some extent. When these damages are taken together the total will probably not exceed -Y-15,000,000. The damage to industrial business, which has generally been omitted in reckoning the damage caused by the inundations, must also be taken into account. Many factories have been flooded or else deprived of motor power, and the loss or damage inflicted on this account is not inconsiderable."

RADIO-TELEGRAPHY EXPERIMENTS IN MANILA

Among the many interesting experiments in the study of Radio-Telegraphy since Marconi announced his first successes in demonstrating the feasibility of wireless telegraphy, that of Mr. C. H. Hulbert who has been engaged on the work in Manila with good results for the last four years is worthy of notice. His researches may be said to have been confined to the development of the apparently elusive undampened wave, and the projecting of this wave in one direction so as to economize on the energy wasted in the only known methods of radiating which project waves in all directions. Once the energy, now employed in sending radio-grams under the present extravagant system a very short distance successfully, is concentrated in projecting the waves or radiograms in one definite direction, the most difficult problem in connection with this modern system of communication will have been solved.



INTERIOR VIEW OF THE RADIO-TELEGRAPH EXPERIMENTAL STATION AT MANILA

For the purpose of experimenting Mr. Hulbert established himself in quarters adjacent to the power house of the Manila Electric Railway and Light Co. The building utilized is the air compressing room of the company situated about a mile from the bay front and is practically at sea level. This room, secured through the courtesy of the company, is equipped with sufficient alternating and direct current for all possible features of experimental work. The smokestack of the steam generating plant, the height of which is about 190 feet, is used as the support of the wave gates and is distant from the air compressing room referred to about 150 feet. An artesian well directly underneath the room is utilized for ground capacity. The interior has the appearance of junk shop when Mr. Hulbert is active but it serves every purpose and he is not hadicapped for lack of power or other conveniences thanks to the friendly and liberal assistance given by the company.

While Mr. Hulbert cannot be inveigled into putting forth a claim to having revolutionized the processes in connection with this interesting science, he has developed many new and interesting features in the course of his work that will not only prove of interest to the electrical world but may aid in solving the many difficult problems presented in efforts put forth to perfect the wireless or radio-telegraph system of intercommunication as yet very unsatisfactory when any attempt is made to carry messages to a greater distance than 250 miles.

The station has the disadvantage of being located at sea level in a section of country surrounded by mountains that exclude open sea work.

The principal phenomena developed during the experiments were discharge effects from an unusual frequency that gave out a high toned shrill noise resembling very much the shrieking, piercing sound produced by a circular saw operating at very high speed and the projecting under the same conditions of a flamelike discharge in one direction in the surrounding free air.

Plate number 2, which appears in illustration, is reproduced from a photograph taken at night showing a discharge of over four feet in projection. The frequency is so great that it has the appearance of a whitish blue flame. (The method of obtaining this result is not available for publication at this time.)

The camera used in taking this negative was placed about seven feet from the discharge and as the exposure was being made, the metal parts of the photographer's machine were surrounded by a nimbus or halo of bluish, brush light. Any large body of metal, insulated with a conducting capacity, would give off a severe shock, when located a distance of twelve feet from the discharge or from the flame resulting therefrom

A very irritating noise that takes on some of the characteristics of a shriek continued indefinitely is another effect of the discharge referred to. If obliged to remain in its proximity for any length of time the operator suffers from severe nervous twitching in almost every part of the body. If the room in which the experiment takes place is not well ventilated the atmosphere is permeated with smell similar to sulphur and the ozone becomes so dense that the operator finds himself covered with perspiration. The result is also rich in ultra-violet light effect.

The flame as shown in the illustration is projected into the free air almost perpendicularly from the ring like solenoid at its base. The projection is about four feet in length, and the energy necessary did not exceed 10 H. P.

By utilizing another experimental coil altogether different from the one referred to in the preceding paragraph some interesting results have been secured. About five H. P. was used but later abandoned as the loss of energy before reaching the radiating point proved too great. Vacuum globes glow brightly eight feet from this radiating coil and peculiar phosphorescent light is thrown off from top to bottom.

In plate number four there are shown some of the types of kites utilized in carrying the wave gates to and maintaining them at high altitudes.

The two smallest are of the Malay type and are used in tandem, sometimes three or four being strung together at one time. In this way an altitude of 2,000 feet is reached. The kites are held by a strong hemp string which supports a strand of fine copper wire tied to it at intervals of about fifty feet. Some very interesting effects are noted at this altitude. From a clear sky, statical discharges have been drawn an inch in length. This same type of kite in lighter work is made of silk, may be folded, and flies with very little wind. Guy strings are attached to the kite at regular intervals all over its surface so as to protect it and distribute the strain among the thin bamboo strips.

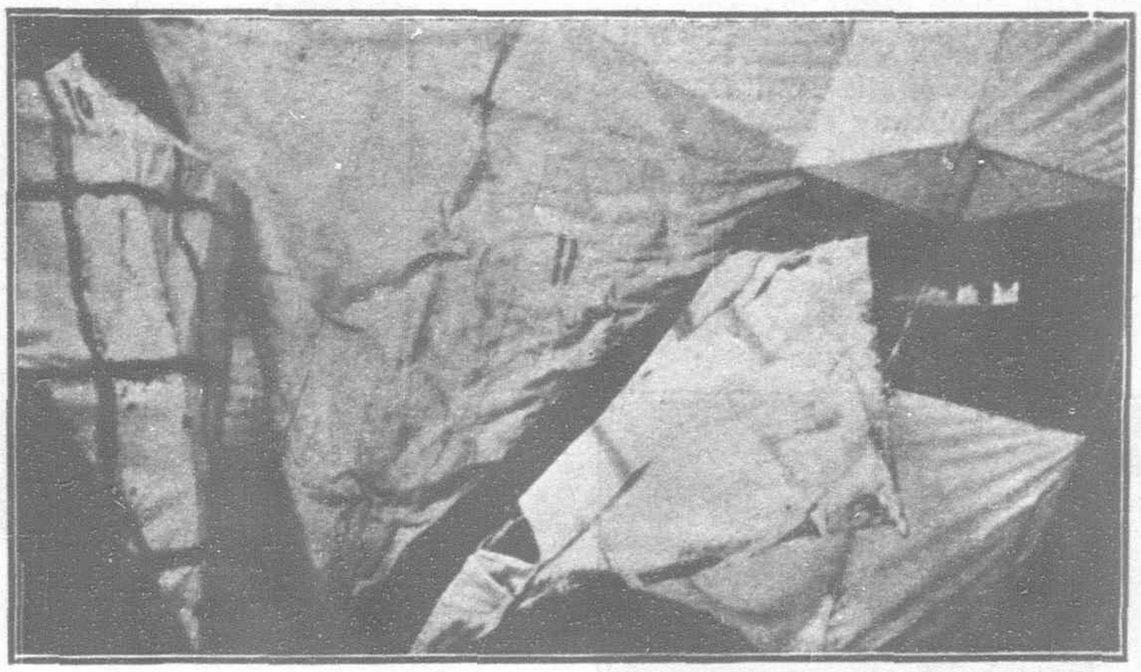
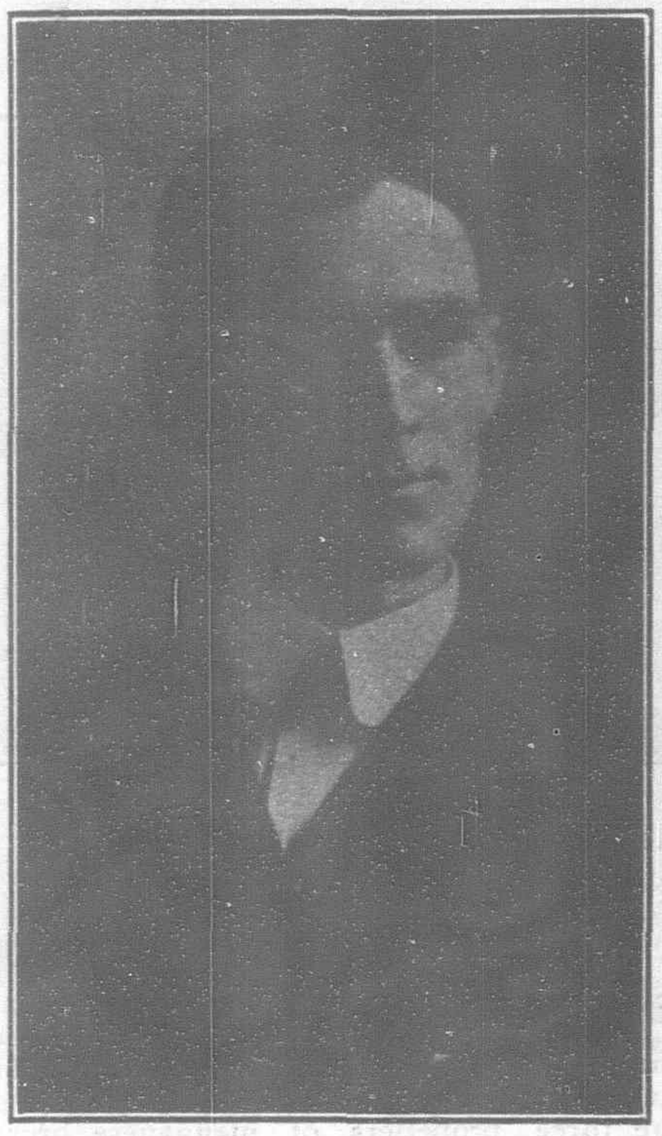


PLATE NO. 4—SHOWING TYPE OF KITES USED IN CARRYING WAVE GATES AT MANILA WIRELESS EXPERIMENTAL STATION

The large Malay kite is made for heavier winds and is used singly. Objection to its use is found in the fact that it collapses when there is a change of wind and falls to the ground. This, however, has at last been overcome by a rudder arrangement kept in place and tension by a bridle which is not shown in the illustration.

The box kite shown is only utilized when heavy winds prevail but has a much greater lifting capacity and supports a heavier wave



CLINTON H. HULBERT, WIRELESS EXPERT IN CHARGE OF THE MANILA STATION

gate. It is usually let out to an altitude of about 600 feet with the smallest possible length of cord for best results. An increase in the length of cord would make the angle undesirable. In the long run the best service is secured from the Malay type which is easily repaired.

In throwing out the radio-waves at night by the use of kites an interesting effect is produced especially when the fan-like conducting wave gate is heavily charged with a high voltage. The single wire that constitutes the wave gate under these conditions carries clear from the station to the kite a curved beam of light similar to that of a searchlight but with softer effect. At a distance it gives the impression of increased volume compared with a near-by view.

The experimental station, an interior view of which is made the subject of the accompanying illustration, is a small reinforced concrete building used by the company as an air compressing room and is situated about 150 feet from the steam generating power house. A number of wave gates have been erected leading off from the top of the metallic smokestack which is about 190 feet in height.

The present wave gate is of a loop type made up of four strands of No. 10 B. & S. gauge uninsulated copper wire. One of the wave gates which was destroyed in the 1906 typhoon had two miles of wire network spanning out 300 feet in length from a point at the top of the smokestack to a base 200 feet wide in fan shape. From this large wave gate messages were picked up at the Jolo Signal Corps wireless station, a distance of nearly 500 miles in a direct line from Manila over numerous islands and water. Radiograms were transmitted with ease 50 miles north of Cape Bojeador, the extreme northern point of Luzon, to naval vessels with less energy than 5 H. P. From Manila in a straight line it is 305 miles, all of which, but the 50 miles from the cape to the vessel, was overland, in which many high mountain ranges obtruded.

Considerable kite work has been done at this station for reconnoissance with good results. Parts of messages could be picked up from time to time from wireless stations in Japan and China varying in distances from 600 to 900 miles.

The experimental station in Manila is not located on an ideal site for the best results and Mr. Hulbert is contemplating the selection of a site for his plant at a higher altitude. The most desirable location in the islands for this work is at Baguio overlooking the Pacific at an altitude of over 5,000 feet. It may be possible that some arrangement may be made to have the experiments continued there in the near future.

AUSTRALIA'S IRON INDUSTRY

Consul Thornwell Haynes sends from Nankin an extract from a Chinese newspaper which treats on the iron industry of Australia. The article follows:

The successful establishments of the iron-manufacturing industry has long been the cherished desire of the Australian people, and its realization has been brought within measurable distance by the contract entered into by the Eskbank Iron Works, near Lithgow, with the New South Wales government, for the supply of all steel and iron required for State purposes during the next seven years. The existence of iron ores of various kinds was ascertained in the early days of the mother State, but nothing was done for many years in the way of utilizing them; yet the deposits have been estimated officially to contain 59,317,000 tons of ore. The chief deposits are at Carcoar, where they are estimated to contain 3,100,000 tons, and at Cadaia, where the quantity is set down at 39,000,000 tons; the ores in the former locality containing rather a high percentage of phosphorus, while at Cadaia the product is impregnated with sulphur and copper.

At present the only works in the Commonwealth for the manufacture of iron from the ore are situated at Eskbank, near Lithgow, in New South Wales, where red siliceous ores, averaging 22 per cent, and brown hematite, yielding 50 per cent metallic iron, have been successfully treated. Abundance of coal and limestone is found in the neighborhood. Recently considerable quantities of iron ore have been raised from the deposits situated in the Marulan, Picton, and Carcoar districts, and dispatched to the Dapto and Cockle Creek, where they have been used as flux, the gold contents of the ore helping to defray the extra cost of railway carriage. The total raised in 1903 was 22,120 tons, valued at $76,000 gold, and up to the end of that year 63,478 tons, valued at $240,000, have been obtained. A considerable quantity of iron oxide is also raised each year and used for flux, while there is also an export, usually small, but amounting in 1903 to 1,193 tons, valued at $5,500.

DEPOSITS IN QUEENSLAND AND TASMANIA

In Queensland the principal deposits occur in the Northumberland and other islands between Rockhampton and Bowen, at Mount Lucy in the Herberton district, at the Iron Mountain in the Kangaroo Hills, and at Mount Leviathan in the Cloncurry district. During 1903, 9,808 tons of ore, valued at $19,000, were raised, chiefly in the Herberton district, for use as a flux in smelting. Large deposits are found in South Australia, the most important being those at the Iron Knob and Iron Monarch mines, situated about 40 miles west of Port Augusta. The ore contents of the Iron Monarch are estimated to be 20,000,000 tons. In 1903 33,359 tons were obtained from the deposits at Iron Knob and used in the Broken Hill Proprietary Company's reduction works at Port Pirie.

In Tasmania, notwithstanding the huge deposit of iron ore at the Blythe River, the production has not been great, and in 1903, only 9,320 tons, valued at $15,000 were mined, the greater portion of which was shipped to New South Wales for fluxing purposes. During 1901 the deposit was tested by tunneling and found to maintain its size and quality, and it is estimated to contain 17,000,000 tons of ore. It was proposed to ship the ore to Sydney and smelt it somewhere on the seaboard, but the contract with the Eskbank Works to manufacture steel and iron principally from local ores has prevented the realization of the project.

PLATE NO. 2—REMARKABLE PHOTOGRAPH TAKEN AT WIRELESS EXPERIMENTAL STATION AT NIGHT SHOWING DISCHARGE FOUR FEET IN PROJECTION FROM SOLENOID AT BASE

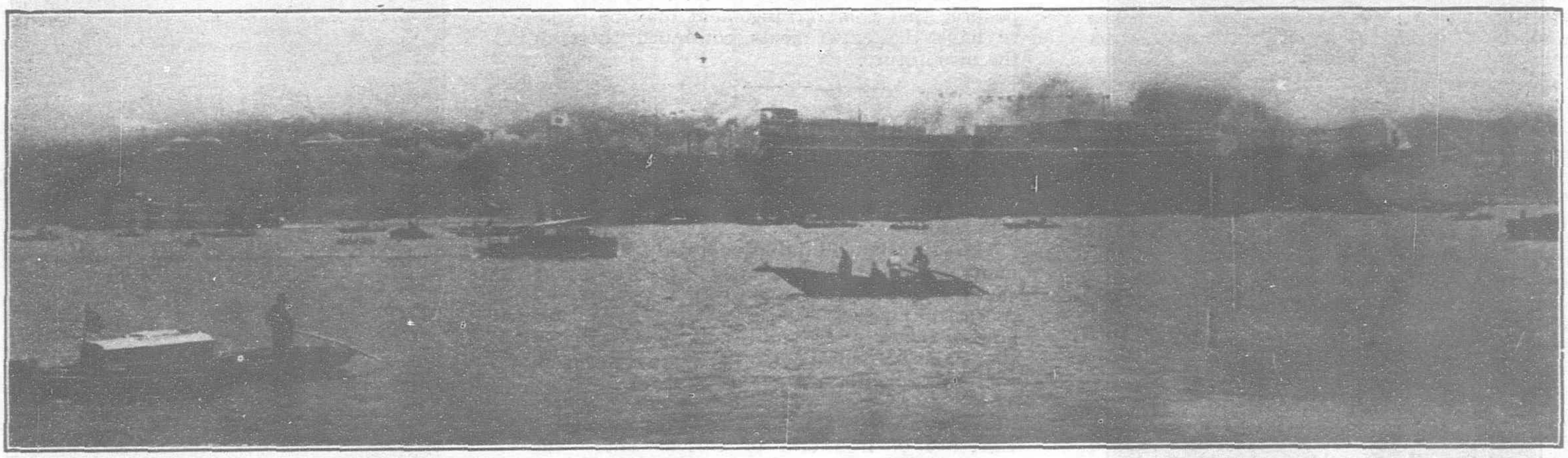
The deposits in Western Australia are widely distributed, the most important being those in the watershed of the Murchison River, but owing to their geografical position they are practically valueless, the only iron mined being for smelting purposes, the production in 1903 being 220 tons. The various engineering, galvanized-iron works, iron works and foundries in the Commonwealth in 1903 employed a total of 16,636 hands. This does not include those in other establishments in which metal industries are carried on. As showing the possibilities of a local iron manufacturing industry, it may be mentioned that during 1903 the import of iron and steel into the Commonwealth amounted to 3,087,917 hundredweight valued, at $7,000,000.

TO FIGHT STANDARD OIL IN NIPPON

With the view to compete with the American Standard Oil Company's business enterprise in Japan the British Rising Sun Oil Company has lately purchased the Asano Tank Oil Department and established more than forty oil tanks in this country. The company is said to have a new project under contemplation to build a large petroleum depot and an oil factory in a certain Kwansai district with the object of importing the Sumatra petroleum. The negotiation in this connection is now going on between the company and its capitalist namely the British Asiatic Petroleum Company. The latter company is widely known as the sole owner of the whole petroleum tracts in Batum, Borneo and Dutch Sumatra. A brisk competition is naturally expected on the oil market of this country between the Standard and the Rising Sun Companies.

LAUNCHING OF THE TENYO-MARU

The Tenyo Maru, Japan's newest and largest liner, was launched from the Mitsu Bishi Dockyard's slips on the morning of September 14, in the presence of a distinguished company including. Governor and Madame Arakawa, Mayor Kitagawa, Rear-Admiral Taketomi, and a number of naval officers from Sasebo, the foreign Consuls, various distinctions, among them that of being the largest merchant steamer ever launched in Japan or in fact in the Pacific and Indian Oceans. The turbine system of propulsion has been adopted and she will be the first trans-Pacific turbine liner as well as the first vessel to be built in Japan and adopted for the system. When completthe N. Y. K. s. s. Tango-Maru which has hitherto had the distinction of being the largest product of Japanese shipbuilding enterprise and was likewise built at the Mitsu Bishi Dockyard and Engine Works. Much of the success attained by the Mitsu Bishi Company has been due to the acquisition of only the most advanced and scientific



THE TENYO-MARU, AFTER BEING LAUNCHED FROM THE MITSU BISHI DOCKYARD SLIPS, NAGASAKI, SEPTEMBER 14, 1907

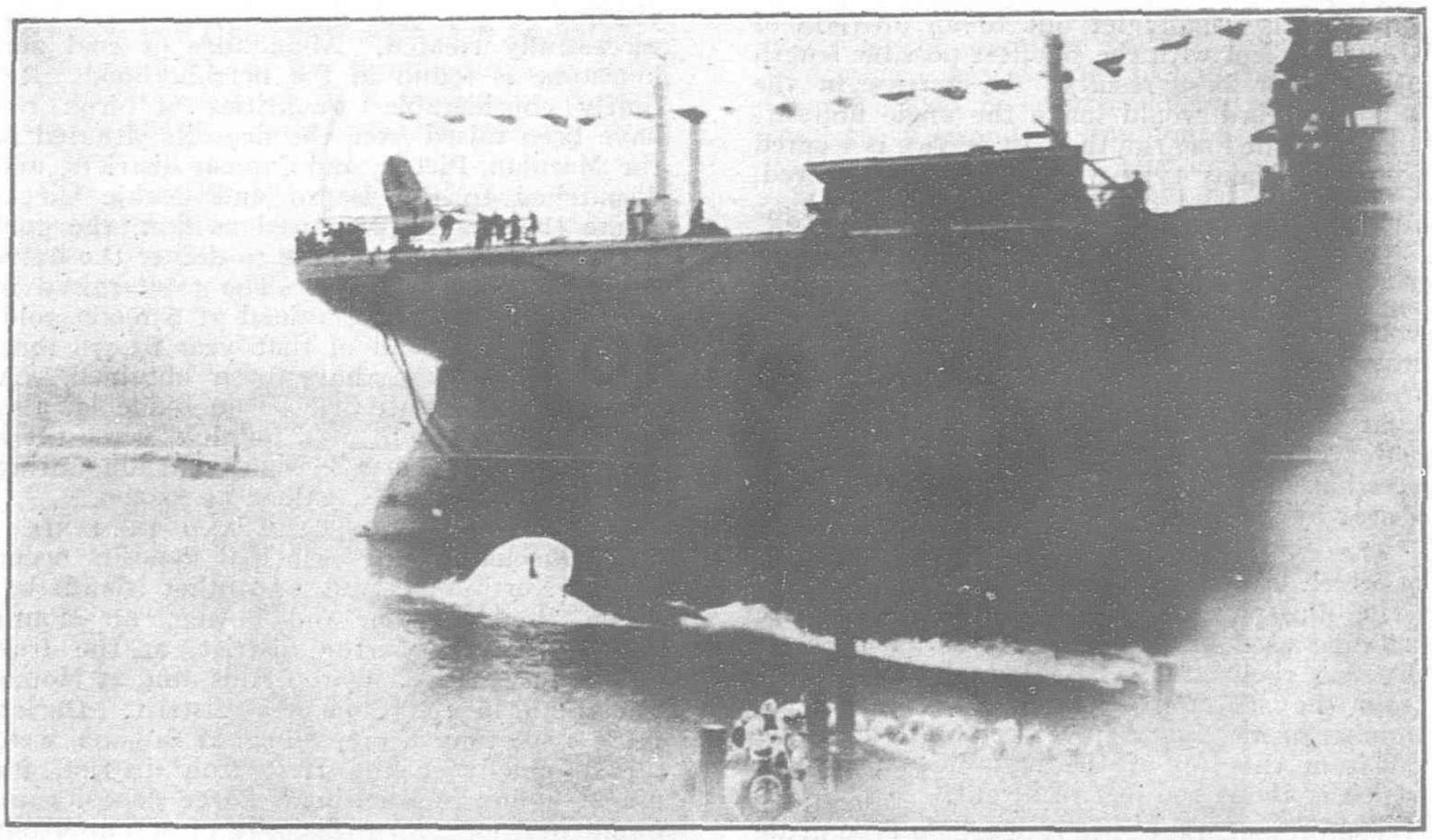
and a large number of Japanese and foreign residents. Mr. S. Asano, President of the Toyo Kisen Kaisha. Mrs. Asano, and Mr. Shiraishi, General Manager of the Toyo Kisen Kaisha. came from Tokio to attend the ceremony. The steamship company's local agents, Messrs. Holme, Ringer & Co., were represented by Mr. J. H. Wallace. Mr. H Shoda, of the Mitsu Bishi Company's Tokio office, was also present. Punctually at 11:30, at the request of General Manager Maruta, Mrs. Asano, wife of the president of the company, cut the electric wire and amid shouts of Banzai, the vessel glided gracefully down the ways. She was then towed by the Oura Maru to Akunoura where she will be equipped with her machinery.

After the launching the invited guests repaired to the mould loft where luncheon was served and addresses of congratulation made by Mr. Miyoshi, Chief Architect of the Board of Trade. and Rear Admiral Taketomi on behalf of the Ministers of Communications and the Naval Department, respectively. General Manager Maruta responded in graceful terms and referred to the enterprise of the Toyo Kisen Kaisha in having such fine vessels constructed and closed by proposing a toast to "The success of the Toyo Kisen Kaisha and the Tenyo Maru." He also referred to the impetus given to the Japanese ship-building trade by the big order being placed with the Mitsui Bishi Company. The president of the Toyo Kisen Kaisha responded and expressed pleasure in the realization of the splendid shipbuilding work being done in Japan. In concluding he proposed the toast "The Mitsu Bishi Dockyard and Engine Works." The Nagasaki Press of September 15 makes the following reference to the Dockyards and the launching of the Tenyo Maru with a description of the vessel:

"The Mitsu Bishi Dockyard and Engine Works is often referred to as Nagasaki's one industrial concern; it is a matter for congratulation, therefore, to see its superiority over all other shipbuilding yards in the Far East so amply demonstrated.

"The vessel which was launched yesterday was the first laid down of three sister ships ordered by the Toyo Kisen Kaisha. She has ed, with her speed of 19 knots and superior, accommodation, she will compare favorably with first-class Atlantic liners and be without a rival on the Pacific until her sister ships are in service.

'The vessel's keel was laid down in November, 1905, so that she was twenty-two



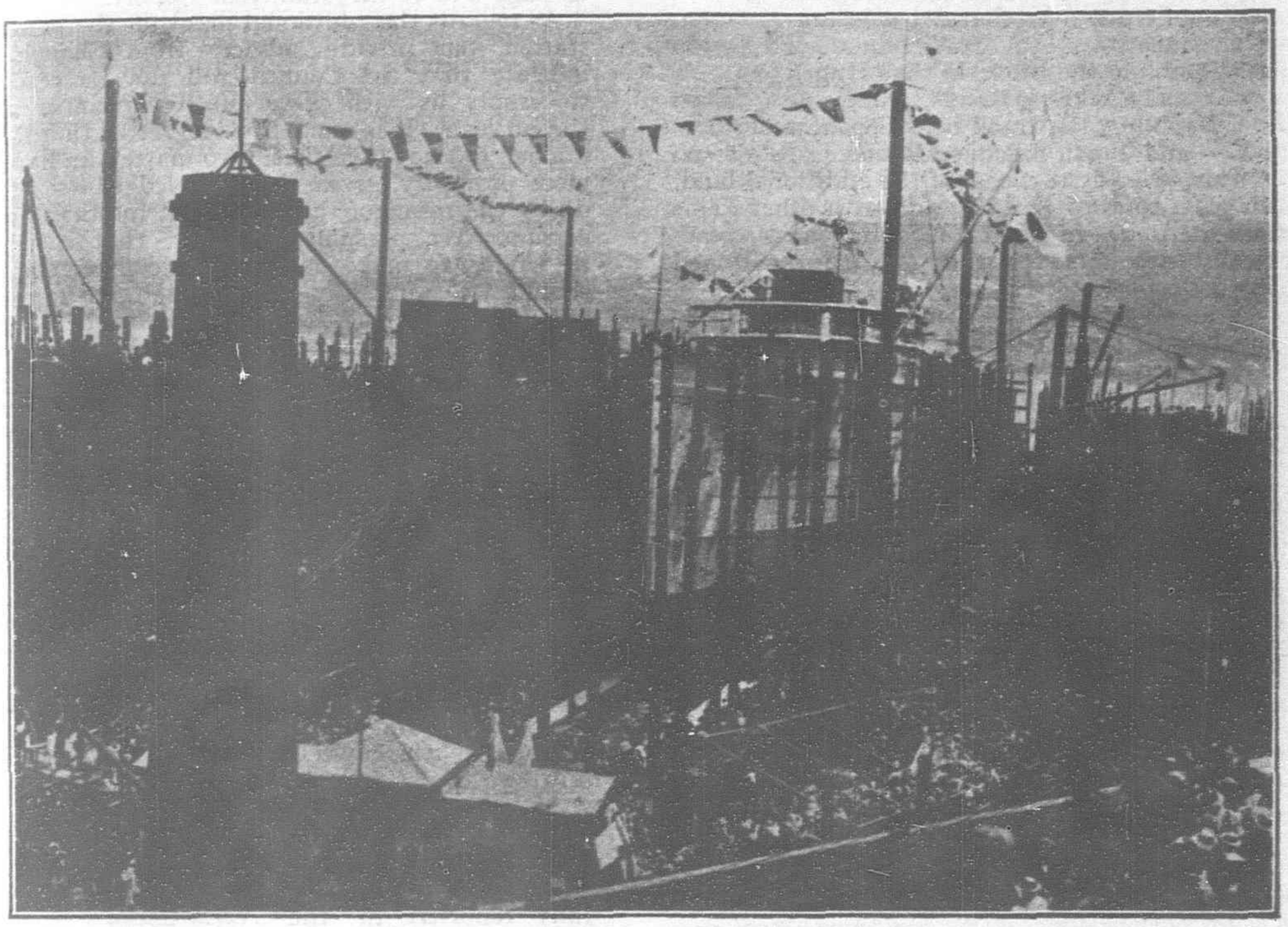
STERN OF THE TENYO-MARU AS SHE GLIDED INTO THE WATER

months on the stocks. Considerable delay in the arrival of the raw material from England prevented the builders from making record progress with the construction. The double bottom was completed in September, 1906, and the frame erection in December. About twice the quantity of steel has been worked into the Tenyo-Maru of that in machinery.

"The stern of the vessel is built on most graceful lines, the adoption of the turbine having greatly affected the shape. There are three propellers, of manganese bronze, but they are so small in comparison with those of ordinary steamers that one wonders how it is possible for the huge vessel to be propelled by them at even a moderate speed; they are expected to make 250 revolutions a minute, however, whereas 90 per minute is considered rapid with the ordinary type. The stern frame is of heavy cast steel and of an improved shape. The balancing rudder is also of heavy cast steel.

"An idea of the tremendous advance in size over the previous biggest vessel may be gathered from the fact that the launching weight of the Tenyo-Maru was 8,200 tons, whereas that of the Tango-Maru was only 4,473 tons.

"Now that she has been launched the engines—Parson's steam turbine—will be placed in the ship with all possible speed.



THE S. S. TENYO-MARU ON THE WAYS AT THE MITSU BISHI DOCKYARDS AT NAGASAKI

All the auxiliary engines, condensing plant, etc., have been made at the Engine Works.

"The cabins, etc., have all been prepared in the carpenter's shop and can be built into the ship without further delay. All the woodwork is put together in the shop so that there shall be no question of error when it is being placed in position and the work of completing for sea can be carried out with celerity.

"The decorative features of the lounge, library, smoking room, saloon, etc., have been designed by Dr. Tsukamoto and are now being carried into effect by special skilled artisans. A well-known Kyoto expert, Mr. Kawashima, has been entrusted with the art upholstery work under special instructions from the Toyo Kisen Kaisha.

"There will be 78 first-class cabins, with 238 berths, and 12 intermediate cabins with 48 berths. Accommodation is also provided for 791 steerage and 1,260 Chinese steerage passengers. Her crew will consist of 238 officers and men.

"Special apartments on board the vessel will include a nursery, dark room for photographers, barber's shop, laundry, and hospital; the latter is to be fitted with special beds for patients in a critical condition. Disinfecting and fire extinguishing apparatus will be installed.

"The Tenyo-Maru has been built with a view to being employed as a cruiser—commerce destroyer—during war time. She will be fitted with wireless telegraphy apparatus and will thus be able to communicate with shore stations or other vessel similarly equipped.

"The dimensions, etc., are as follows:—

Length between perpendiculars	550 feet.
Breadth moulded	63 ,,
Depth moulded (to upper deck)	38 feet 6 inches.]
Shelter deck above upper deck)	8 feet.
Promenade deck above shelter deck	9 feet.
Boat deck above promenade deck	9 ,,
Gross tonnage.....	13,500 tons.
Speed	19 knots.
Horse power	16,850.

"The vessel has been built under Lloyd's survey and to Communications Department requirements."

SANDAKAN SHIPPING

Following are the returns of shipping at Sandakan Port, during the year 1906, compared with those of the year 1905. The gross returns of shipping entered show an increase of 8,574 tons and of shipping cleared 7,215 tons. The chief parties to this increase were (1) German ships, more trips done by the regular vessels, (2) British local coasters, the same,(3)The *Petrel* being in commission throughout the year, and (4) Men-of-war, a larger tonnage entering.

The only outside vessel which came in was the *Rajah* from Hongkong, and as she was merely substituted for the *Borneo* for one trip, she can hardly be counted out of the regular run. The American schooner *Peerless* came in for her usual annual overhauling on the Slipway.

Foreign men-of-war and Government vessels consisted of 2 British, 8 American, and 1 German. Their calls were mostly cruising, and their names are subjoined to the statistics. All entered the harbor with the exception of the S. M. S. *Furst Bismarck*, her deep draught not allowing a sufficiently safe margin to cross the outer bar.

The Government cruiser *Petrel* was kept busy on service work all through the year, doing a mileage of about 11,000 miles on 25 trips between Sandakan, and the East and Westf Coast ports and stations. In the early part of the year she did some overhauling of buoys and beacons, placing a new beacon on the Hand Rock near Tawao, a new Buoy on the Billian South Dangers, and re-painted some of the buoys in the West and South Banguey channels.

General statistics for the Harbor Department during the year under review show the following:—

Registrations under the Saban Flag.—14 Fishing boats, 3 steam launches, 2 lighters, and 1 sapit; 20 vessels in all.

TRANSFERS OF BOATS

The steam launch *Pryer* from the China Borneo Co. to the Bakau Co., the name being changed to the *Bakau*. The pearling lugger *Harap* was sold to a trader in the Sulu Islands.

NEW BOATS BUILT

The China Borneo Co. launched 6 vessels, viz:—5 lighters and 1 steam launch, their aggregate tonnage being 522 tons. They were all to the order of local companies, with exception of 1 lighter for their own use.

The North Borneo Trading Co. launched 3 tongkangs of the following dimensions viz:—2 of 80 ft. length, 20 ft. beam, and 8 ft. 6 in. depth, with an approximate net tonnage of 95 tons; and one of 101 ft. length, 22 ft. beam, and 10 ft. depth, with an approximate net tonnage of 155 tons These vessels were built to specification for the British Borneo Exploration Co., for the express purpose of shipping manganese ore.

The Chinese firms constructed 8 new junks, all for fishing purposes.

SLIPWAY

26 vessels were cradled of a total tonnage of 3,509 tons.

DEEP SEA FISHERY

57 junks and 11 tongkangs, of a gross carrying capacity of 4,685 piculs. The respective owners admit to a catch of 30,000 piculs, but this figure is really far below the mark, the total catch exceeding that of 1905. 4 junks were broken up as unseaworthy and unfit for further use, and 2 junks were stolen and taker to Bulongan.

COAL MINING IN KIANGSI

It is interesting to note that with most of the mining and railway interests now under way in China the Germans in the Far East are closely connected. Another instance of Germans making the most of opportunities offering comes in the accounts of the Pingsiang mines and the railway connected therewith, details of which are given in the annual report of O. G. Ready, acting commissioner of imperial Chinese customs at Changsha. Mr. Ready says:

"Although there are known to be hundreds of coal mines scattered throughout this district, they are all, with one exception, worked in the most primitive and unproductive fashion. This one exception—the Pingsiang coal mine, situated in Kiangsi, just beyond the Hunan border—is connected with the Siang River at Chuchow, some 50 miles above Changsha, by a trunk railway 64 miles in length, without counting several miles of sidings, which, moreover, are being continually increased. This line is substantially built, the rails weighing 76 pounds per yard, while the gauge of the track is 4 feet 8½ inches, and well ballasted with broken stone and gravel. The rails were manufactured at Hanyang, though most of the sleepers were imported from Japan. The bridges are either steel girders or masonry arches, the longest being about 500 feet. The present traffic consists of four trains daily each way, carrying about 800 tons of coal and coke, while to each train are attached three passenger cars usually well filled. The mine was opened in 1898 with the object of providing coal and coke to the Hanyang Iron and Steel Works and, under skilled German supervision, has been steadily developed until, during the past year, both the underground and surface plants were completed to a standard of a daily output of 1,500 tons of coal, which, it is expected, will be increased to 3,000 tons a day in the course of a few years, provided the Hanyang Iron and Steel Works are developed according to the present anticipations.

"The average output of coal during the year was 1,000 tons a day, the greater part being turned into coke at the rate of 400 tons a day, leaving about 200 tons of coal, in the form of washed and screened lumps and nuts, for sale. The coke, being made from washed dust coal only, is of good quality and very suitable for blast-furnace work, while the coal is good steam coal, as proved by tests made on both English and German gunboats. The total amount of coal in that part of the Pingsiang coal field which belongs to the Pingsiang Coal Mining Company is computed at 300,000,000 tons, whereof a great part can be taken out by the level adits, while it is estimated that a shaft depth of only 200 meters will be sufficient to drain the whole coal field."

FIRST ANNUAL MEETING OF THE SHANGHAI ELECTRIC CONSTRUCTION CO.

The full report of the annual meeting of the Shanghai Electric Co., ltd., which was held in London on July 18, 1907, has been received and the report of the chairman follows:

The Chairman said:—

At the Statutory Meeting held on February 15 last I explained that the Company was started, not simply as a speculation, but to carry out the requirements of the Municipal Council at Shanghai, who had for many years previously been desirous of establishing a system of tramways in the Settlement, the large increase in population and extension of roads having made it difficult to get from one end of the Settlement to the other with the existing primitive locomotion of wheelbarrows and ricshas, supplemented by the private carriages which a few of the richer residents were able to afford.

The Report of the Statutory Meeting stated that the total number of shares allotted was 320 of £1,000 each, of which 317 shares had been allotted, payable wholly in cash, and three shares were allotted as fully paid up in part payment of underwriting, as stated in the Prospectus of the Company; with the exception, therefore, of the three shares just referred to, the whole of this capital, after paying preliminary expenses, has been available for the purposes of construction.

This Balance Sheet, which is made up to May 31 last, will, I think, not require much explanation. You will notice that on Construction Account it shows an expenditure of £230,140, which has all been paid away, except the retention money shown on the other side, £13,141. The next item in the account is £5,185 for cost of additional land adjoining the car-shed site. The contractors, of course, fulfilled their obligation when they bought sufficient land on which to erect the car sheds, workshops and offices appertaining thereto, but we recognized at an early date that we should also provide for possible additions to the car shed in the future—that we might wish to house some of our employees in the immediate neighbourhood thereof and that land was certain to increase largely in value around the busy centre which would thereby be created—so we thought that we had better make provision for the future, and buy additional land at once. I am quite certain that the Company will never regret having made this purchase.

The loan of £5,000 to the contractors, representing a deposit which they had to make with the Shanghai Municipal Council on signing the contract on October 10, 1905, was explained at the Statutory Meeting. This deposit will, in due course, be returned to us on the completion of the contract.

The two items of £2,895 and £2,476, under the head of General Expenditure since the formation of the Company, cover a period of nearly eighteen months, full details of which I shall be pleased to give if any shareholder desires to have them.

The item of £25,554 for underwriting commission and preliminary expenses was given in detail at the Statutory Meeting. The greater part of the underwriting commission, amounting to £18,950, was received by the original shareholders themselves.

The number of cars already shipped is twenty. More cars will be shipped shortly, and we are assured that the remainder should be available in Shanghai by contract time.

As regards the additional expenditure not provided for by the original issue of shares, we found it advisable, as the work progressed, to make certain extensions and additions to the original plan, all of which were done under the sanction, if not under the advice, of the Municipal authorities. The most important of these are the doubling of the track in the Nanking Road on the section nearest to the Bund, also in the Hupeh, Chekiang, and North Chekiang Roads, and from the Garden Bridge along North Soochow Road and North Szechuen Road to a point just outside the Settlement.

These three thoroughfares are main arteries for traffic, and it is believed that the doubling of the track will greatly improve running facilities, and in consequence increase the earnings of the cars.

The estimated cost of these improvements and additions is as follows:—

1. Doubling the track in Nanking Road and the cost of extra mileage due to the increased length of passing places, and excess in cost of actual measurement of track over contract measurement—---------- £5,500
2. Doubling the track in the Hupeh and Chekiang Roads---------- £4,000
   Doubling the track near Soochow and North Szechuen Roads----- £6,500

This, *plus* £5,185, cost of the additional land, makes a total of £21,185, and with other items and a balance in hand for contingencies, practically accounts for the £30,000 mentioned in the Report.

You are aware, Gentlemen, that an Agreement with the Company which obtained the Tramway Concession in the French Settlement was always contemplated, and I have to mention that an arrangement has been come to with them under which we shall have mutual running powers over our respective lines. The essence of the Agreement is, that the number of car miles run by each Company over the lines of the other shall be identical. The terms of the Agreement have been settled and the Municipal Councils of both Settlements have been informed of it, but I believe the official sanction has not yet been given.

It is intended that the routes to be operated in this way should be:—

(*a*) East Gate of Chinese City along the Bund and Broadway to the Aquarius Company's works, returning via Seward Road.

(*b*) East Gate of Chinese City to the Railway via Garden Bridge, North Soochow Road, North Szechuen Road, Range Road, and Railway Road.

(*c*) West Gate of Chinese City via Hupeh and Chekiang Roads to the Railway Station.

The doubling of the North Szechuen Road which we have carried out will improve the service of route (*b*) in the same way as the doubling of the track in Hupeh and Chekiang Roads will improve the service of route (*c*). Before this route (*c*) is operated a further small extension will be required from the Hupeh and Canton corner to link up our system with that of the French Company.

As to the progress which has been made by the French Company, I am informed that it expects to be ready early in 1908. The cars are under construction in this country, and are exact repetitions of our own. All are being made at the Brush Company's Works at Loughborough, which place I visited for the Company with a representative of Messrs. Harper, and saw some of our cars in process of construction.

As regards the Tramways on the Chinese Bund and in the Chinese Quarter round the Native City, all negotiations appear to be at a standstill, but there seems every probability, when the Chinese authorities see the tramways running successfully in the English and French Settlements, that they will desire to have them extended to the streets under their own jurisdiction.

As to the date at which we shall be able to commence running the trams, we are practically in the hands of the Municipal Council. As far as the Company is concerned it is probable that the whole of the undertaking will be ready by October 10 next, the date fixed by the Tramway Concession; but we have no official information from the Council when the power station and the two bridges, the Garden Bridge and Chekiang Road Bridge, will be ready for the tram lines, towards the cost of which we are under agreement (dated October 10, 1905) with the Council to contribute £5,500 and £2,000 respectively. On page 238 of the Annual Report of the Council for 1906, the Municipal Engineer, Mr. Mayne, reports that a contract has been entered into with Messrs. Howarth Erskine, of Singapore, by which they are to complete the erection of the Garden Bridge in December of this year, and Chekiang Road Bridge in September. When this firm's contract is completed there will remain the paving of the bridge and finishing off the approaches. It is stated that the Cleveland Bridge Company, of Darlington, England, is making the steel for Messrs. Howarth Erskine, but we fear some time must elapse before it will be even ready for shipment from Darlington; and later advices regarding Chekiang Road Bridge state that it will not be completed until some time after the Garden Bridge. For full details of construction of bridges I refer you to page 236 of the Municipal Report.

As regards the additional plant for the power station, our private advices from Shanghai indicate that the Council will not be ready to supply us with power until November at the earliest. It is much to be regretted that the Council did not take these two matters in hand more promptly, as we think it pledged itself to do by the terms of the agreement for the Concession. We presume, however, that it will be willing to make us adequate compensation should we suffer any loss through its unpreparedness. Should the power station be completed in November it would be possible to operate the tramways as two separate systems, one on the North and the other on the South of the Soochow Creek, by carrying the cables on temporary supports across the Creek; but any such expedient would be a severe tax on the administration of the tramways, especially when all hands would be new to the work, and must seriously affect the receipts, owing to our inability to give through bookings between the Northern and Southern portions of the system. It may, however, be better to adopt this course, if the Council desires it, than to leave our whole system lying idle, with expenses accumulating until the two bridges are completed, which we fear may not take place until we are well into 1908

As regards the purchase of the Council's electrical undertaking and plant, you will have noticed that at a Meeting of Ratepayers which took place on March 20 last, and was fully reported in the *North-China Herald* of March 22, we authorized certain proposals to be made to the Council. Our main object at the meeting was to elicit an expression from the ratepayers that they were in favor of the principle of selling the electrical undertaking to us in preference to leaving the working thereof in the hands of the Council, provided of course that a price satisfactory to the Council and the ratepayers could be agreed upon, concerning which our representatives had many consultations with the Council. For some time past we have been aware that a feeling existed against this work being left to them, and that members of the Council were much inconvenienced by being called upon to perform such special and technical work in addition to their ordinary duties as Municipal Councillors. Our representatives, therefore, attended the meeting with some confidence that the resolution put forward with much ability by Dr. Ward Hall and Mr. Kinnear would receive a favourable reception at the hands of the ratepayers, especially as it was supported by members of the Council, including Mr. Keswick, the Chairman, and other influential members of the community. The ratepayers, however, declined to accept the advice so given them by their elected representatives, and the resolution was lost. Voters were influenced possibly by the resolution having only been brought forward at the end of a very long sitting, and also by the pressure put upon them by the firms interested in supplying electric light materials and fittings, who were under the apprehension that, should the electrical plant pass into the hands of the Tramway Company, we should seriously compete with them in the business. It is possible that this matter will again be brought before the Municipal Council and ratepayers on a future occasion, and I can assure those gentlemen and firms that we have no desire to enter into any unfair competition with them in their business, and that so long as they provide for the requirements of the public at reasonable prices, and at prices that would not interfere with the increasing expansion of the use of electric light and power, our Company would not find it to their interest to embark at all in a wholesale or retail trade of this character. We should, on the contrary, be more likely to find the existing firms

valuable supporters, since new business for them would mean more business for us. I trust, therefore, should the subject again come before the ratepayers, that we shall find those firms more ready to associate themselves with us than they were in March last, and willing to assist us in bringing the tramway system, electric light system, and the power system under the control of one authority, which authority would have the advantage of a permanent Board of Directors, and no doubt be better able to meet the wishes and requirements of the community than it is possible for busy members of the Council to do. The declarations which the Company, if they owned the plant, would then be able to make would be a guarantee to those firms that we should not interfere with their business, whereas, until some such declaration or undertaking is given, our Company and its staff of course remain free to compete in business of every sort if they think fit to do so.

I think all that is left to me now is to refer to the special resolution that will be put before you. We recommend, now that the capital is fully paid up and the works in a very advanced state of completion, that the £1,000 shares should be split into 100 shares of £10 each. They will make the shares more negotiable and will enable the small investor to acquire an interest in the Company on more favorable terms than he is likely to do later on should our enterprise succeed in the manner we anticipate.

To facilitate the transfer of shares we provide an option on the part of the holder either to remain on the register in London or to call for shares to bearer. The latter necessitates a payment of 30 shillings per £100 as a commutation of stamp duty demanded by the revenue authorities when registered shares are transferred. But on the other hand it may be a great convenience to shareholders residing abroad. Shares to bearer would have a coupon sheet attached, and these coupons, which would be numbered, could be remitted home or cashed, if desired, by the agent abroad. Any such bearer shares could always be again exchanged for a certificate on the London register at the convenience of the holder.

Holders of bearer shares who desire to exercise their voting privileges would have to deposit them with the secretary in London in accordance with the regulations which are embodied in the resolution you will be invited to consider.

This proposal for bearer shares is put forward also with the idea of doing away with the necessity of a Shanghai register, as to the legality of which our legal advisers are somewhat doubtful, notwithstanding that such a register has been kept for many years by other limited companies registered in England and doing business in Shanghai.

PHILIPPINE RAILWAY CONSTRUCTION

The work of construction on the Philippine Railway lines in Cebu and Panay goes on apace. The grading is away in advance of the steel and bridge construction by 20 miles on each line. In Panay the steel is laid for over ten miles and in Cebu for 30 miles. The construction of buildings continues more rapidly than ever before and with the arrival of several consignments of steel and other equipment, there will be renewed activity in putting the finishing touches on the road and opening the completed sections to traffic. There are six Baldwin locomotives on the way, two of which go to Iloilo and the balance to Cebu. In all 80 box cars have been ordered with 15 third class coaches, four combination first and second class and four coaches for mail, baggage and express. All the coaches ordered are to have steel under-bodies. Much of this material is expected to arrive this month.

The Manila Railway Co. has made rapid progress during the month and traffic was started on two of the new lines. The Dau, San Pedro Magalang line, 9 kilometers in length, was opened to traffic November 15, and 10 kilometers of the San Fernando de Pampanga-Florida Blanca line was opened on November 10.

The grading and laying of steel extends for 13 kilometers on the Dagupan-San Fernando de Union line. The ballast was taken from the bed of the Bued River and is of good quality. The steel used is 65 pound in 33 feet lengths. The entire length of this line is about 70 kilometers.

The San Fabian-Camp One line which is a branch of the Dagupan-San Fernando de Union line is about 19 miles in length. The grading has been completed for 16 kilometers and the steel laid for 9 kilometers. Forty-five pound steel in 7 meter lengths is used and was obtained from the relay main line. Three miles of grading have been completed on the Paniqui-Tayug line and 22 miles of definite location completed. The entire length of this line is 48 kilometers.

The Dau-San Pedro Magalang line, 9 kilometers in length, was opened for traffic on November 15.

The San Fernando de Pampanga-Florida Blanca line which when completed will be 24 kilometers in length is graded for that distance and the first 10 kilometers were thrown open to traffic on November 10.

The grading has been completed on the Maraguina-Montalban line a distance of 13 kilometers. Special steel bridges are now being constructed at the rivers Nanca and Manga. The steel used in tracklaying is 65 pounds and 33 feet in length.

The Manila-Batangas-Banuan line, which when completed will be 108 kilometers in length, has been graded for a distance of 49 kilometers, two miles of steel have been laid and six miles under way at the end of October. The ballast for this line is taken from the Pasig and is of fairly good quality. Of the nine kilometers of the Manila belt line, 3 kilometers have the steel laid and the entire distance is graded. The bridge over the Pasig is well on the way. The foundations, piers and abutments are 90% complete. The construction of the yard at Pandacan including a heavy fill, wharf, derricks, trackage and warehouses have been completed.

The Manila-Naic line which is 67 kilometers in length has been graded for 24 kilometers and steel laid for 6 kilometers. Sixty-five pound steel, 33 feet in length, is used.

The Calamba, Santa Cruz and Magdalena line which will be 35 kilometers in length when completed, has been surveyed and the definite location through Los Baños approved by the local authorities.

Three kilometers have been graded of the 63 kilometers of the Santo Tomas-Lucena line.

Ten kilometers of the Legaspi Nueva Caceres line have been surveyed and definite location completed.

The definite location of the Legaspi-Tobaco line for the entire distance of 31 kilometers has been completed but is held-up pending the decision on the amendment to sub-section "A" of act 1510.

The Antipolo Hill section which is 9 kilometers in length has been graded for 6 kilometers and the rails have been laid for 4 kilometers.

BENGUET RAILWAY CONCESSION

The Philippine Commission passed an act October 2, authorizing the governor-general to execute a concessionary grant or contract for a railway line to Baguio, province of Benguet and specifying the conditions under which the concession shall be granted. Among these provisions authority is granted for the construction and operation of railway with its terminus at Baguio and connecting Manila or any point on any existing railways therewith. The gauge of the road will be 3 feet 6 inches and shall be operated either by steam or motor power at the discretion of the governor-general. Supplies for construction shall be admitted free of duty. The grantee shall pay into the insular treasury annually for 30 years 5% and for fifty years thereafter 1.50% The grantee company shall also have the benefit of the provisions of the Philippines Bill which provides for the guarantee by the government of 4% on first lien bonds.

It is understood that the Manila Railway Co. will be the grantee as the lines of the company reach Camp No. I, a point on the Benguet road, distant but 22 miles from the summer capital.

During his visit to Manila the secretary of war announced that he would favor the appropriation necessary for the construction and maintenance of a brigade post at Baguio as a measure of economy in the transportation of troops to and from the temperate zone. With the temperate climate of the hills available for recuperation it is believed that the tour of duty in the Philippines may be extended from two years to four, thus saving the difference between the cost of transportation to Baguio and the shipment of troops to the United States every two years and replacing them at enormous cost.

With this military transportation and the traffic that will increase as the mineral resources of Benguet are developed, the prospects for such a railroad as the one referred to seems very bright provided of course that congress sees fit to act favorably on Secretary Taft's recommendations.

FAR EASTERN NOTES

By WALTER J. BALLARD

India is full of rich mines. American and European scientists are in the field, prying into things and it is only a question of time when "on to India" will be loudly and frequently heard in the mining world. One of the largest and most enterprising American prospecting and mining companies has already taken exploring leases for coal, chromite, iron, precious stones, gold, manganese ore, aluminum, bauxite, red ocher, cinnabar, and quicksilver, and any kind or kinds of minerals which may be found, and that possess commercial value, says the FAR EASTERN REVIEW of Manila, Shanghai, and Yokohama.

During 1905 the coal mines of India raised 7,762,779 tons of coal and exported 180 945 tons of manganese ore. The coal mines employed 80,496 people. India also produced 25,548 hundredweight of mica, and 93,176 tons of limestone.

Japan's imports from Belgium last year were valued at $5,000,000 or about double those of the prior year. They consisted of iron manufactures, glass, and paper for printing, chiefly. Japan's exports to Belgium only amounted to $330,000 and consisted of straw plaits, fish, oil, herring and sardines, and rice.

The steel bridges, constructed and being constructed in and around Manila, are the very best of their kind, marvels of grace and strength and object lessons of American enterprise when the ferry-scows of the four Spanish centuries are remembered.

Speaking at Los Angeles on January 28 last, Mr. W. J. Bryan highly commended the American educational work of the Philippines.

The gold-mining industry of Western Siberia has decreased each year since 1900. At present it is in a state of transition from gravel to vein mining. Tomsk is the gold mining district.

Since the close of the war 3,896 new companies have been promoted in Japan, which with extensions of old companies call for $450,000,000 capital.

COOLIES FOR BORNEO AND F. M. S.

Coolies for estate work in the F. M. S. and British North Borneo continue to be recruited in increasing numbers in Java. The latest Java papers note that permits for recruiting have been granted to the following F. M. S. ventures: 300 laborers for the Malay Rubber Planters, Ltd., 1,000 each to the Chendariang Rubber, Ltd., and the Sungei Jong Rubber Estates, Ltd., (all in Perak). Permits for British North Borneo are: 500 for the N. B. Trading Company, Ltd., and 200 for the Batu Putih Estate Company.—*Penang Gazette.*

FAR EASTERN COMPANY REPORTS

MALAY STATES COFFEE CO.

At an extraordinary general meeting of the Malay States Coffee Company, Limited, held in Colombo, it was decided to accept the offer of the Damansara (Selangor) Rubber Company for the purchase of Labuan Padang estate. It was then resolved that the Company should go into voluntary liquidation. The agents and secretaries were paid a sum of R3,000 for past services, while the Directors were voted a sum of R1,500, and the manager R1,000.

ANGLO-MALAY RUBBER CO.

The Anglo-Malay Rubber Co. declared an interim dividend of 10% on September 26.

SIONE RUBBER CO.

A dividend of 7.50% was declared by the Sione Rubber Co. at its third annual meeting held recently at Singapore. Provision for the payment of $1,500 to the directors was made.

DELHI AND LONDON BANK

The directors of the Delhi and London Bank have declared a sterling dividend at the rate of 4% per annum or 10 shillings a share for the half-year ending June 30, 1907.

NATIONAL BANK OF INDIA

The National Bank of India has declared a dividend of 12% for the year ending June 30, and in addition, carried forward £212,022.

THE CHINESE ENGINEERING AND MINING CO., LTD.

The annual general meeting of the shareholers of the Chinese Engineering and Mining Co., Ltd., held in London on Oct. 28th when the directors' report and accounts for the financial year ending February 28th, 1907 were submitted.

EXTRACT FROM DIRECTORS' REPORT.

The net result of the year's transactions shows a balance to the credit of profit and loss account of £208,396, made up as follows:

	£	£
Net profit after providing for all charges in China.....		241,215
Add balance brought forward from last year.....	6,604	
Gross receipts in London.....	6,140	12,744
Total.....		
Deduct—Expenditure in Europe, salaries, stores, etc.	7,100	253,959
Debenture, interest	25,188	
Debenture, redemption	10,000	
Directors' fees	3,250	45,538
Total.....		208,396

Which the directors recommend should be appropriated as follows:

	£
In placing to reserve for depreciation (making a total reserve of £150,000	40,000
In paying a final dividend of 1s 6d per share (free of tax) payable 2nd November, 1907.....	75,000
Making a dividend of 15 per cent for the year with the interim dividend of 1s 6d per share paid on 1st May 1907.....	75,000
Directors' percentage on profits in accordance with the articles of association	6,840
And carrying forward.....	11,556
	£208,396

GOPENG TIN MINING CO.

The directors of the Gopeng Tin Mining Co. and New Gopeng Limited have declared a dividend of 1/6 and 1/3 a share respectively.

HOKKAIDO COLLIERY AND STEAMSHIP CO.

At the meeting of the directors held October 12 the managing director reported that the dividend for the current half year would be at the rate of 14% per annum.

CANTON INSURANCE CO.

A dividend of $20 a share, equal to 8% has been declared by the Canton Insurance Co. for the year ending December 31, 1906.

THE NORTH CHINA INSURANCE CO.

The North China Insurance Co. has declared a final dividend of seven shillings a share making in all fifteen shillings for the year ending June 30,1907. This is equal to a dividend of 6%.

DOUGLAS STEAMSHIP CO.

A dividend of four dollars for the year, equal to 10½% at the present quotation of the stock of the Douglas Steamship Co. has been declared for the year ending June 30, 1907.

NIPPON YUSEN KAISHA

From all indications the current half year has been more than satisfactory to the directors of the Nippon Yusen Kaisha. Its policy of substituting combinations for competition wherever possible has greatly increased the revenues and it is expected that a dividend of at least the usual 12% half yearly dividend will be authorized.

NISSHIN S. S. CO.

The keen competition that has featured the operations of the Nisshin S. S. Co. on the Yangtze has reduced the net earnings of this company but it is authoritatively announced that a dividend of at least 6 or 7% will be paid for the next year.

TOYO KISEN KAISHA

The outlay for new steamers by this company has been large but the usual 12% dividend has been paid, in part from its large reserve. The shares of the Toyo Kisen Kaisha are paid up to 45 yen through recent calls and the final call of five yen will be made next spring making the capital stock of 6,500,000 yen fully paid up.

TOKIO RAILWAY CO.

Commenting on the financial condition of the Tokio Railway, the Yorodzu Choho says that the company will not declare a dividend less than 8% for the current year.

THE KOBU RAILWAY CO.

A dividend of 13% was declared by the Kobu Railway Co. at a general meeting of its shareholders held in the Tokio Chamber of Commerce, October 16.

SINGAPORE COLD STORAGE

At the directors, meeting on October 4, the report for the half year ending June 30 was submitted. It showed a profit of $15,607.12 which added to the last balance brought forward made in all $17,481.12 of which after depreciation in machinery and furniture was written off and a sum set aside for lease redemption of buildings a balance of $7,257.93 was carried forward.

TOKIO MUSLIN SPINNING CO.

The directors of the Tokio Muslin Spinning Co. announce a steady improvement in the demand for its product and in addition, to a half yearly dividend of 26% at the end of the half year announced an annual dividend of 24%.

EASTERN TELEGRAPH CO.

The Eastern Telegraph Co. has declared a dividend of 3.50% per annum less income tax on the preferred stock and 1.25% on the ordinary stock free of income tax. The former dividend is for the quarter ending September 30 and the latter dividend an interim in respect to the profits of the year ending December 31, 1907.

HONGKONG DAIRY FARM

The Hongkong Dairy Farm Co. has declared a dividend of 20% and in addition transferred $10,000 to the cattle reserve fund.

JAPANESE HORSE IMPROVING CO.

A dividend of 15% per annum was declared by the Horse Improving Co. at the second annual meeting held at Tsukiji by the shareholders.

INCREASE OF CAPITAL OF HONGKONG AND KOWLOON WHARF CO.

At an extraordinary general meeting of the Hongkong and Kowloon Wharf and Godown Co., Ltd., held at Hongkong, it was resolved:

1.—That the capital of the Company be increased from $1,000,000 to $3,000,000 by the creation of 20,000 new shares of $50 each.

2.—That such new shares be issued at par and be offered to those persons who are registered as shareholders of the company on December 1, 1907, in the proportion of one new share for every complete two shares held by them on December 1, 1907.

3.—That the amount due for the new shares be called up on December 3, 1907.

NEW COMPANIES

THE EASTERN FIBER CO., LTD.

The Eastern Fiber Co. has been formed at Shanghai with a capital stock of Tls. 300,000 for the purchase of the rights in China and Japan of a secret process for the degumming and softening of hemp, China grass and other vegetable fibers and to prepare them for a filasse for spinning and weaving, etc.

SAMBAS RUBBER & GUTTA PERCHA CO.

The Sambas Rubber and Gutta-Percha Company has been formed, with a capital of £160,000 in £1 shares, for the purpose among others, of acquiring the benefit of and providing working capital for the further development of a number of concessions in Sambas (Dutch West Borneo). Of the total capital, 60,000 shares will be issued, credited as fully paid, in part payment of the purchase price (£75,000), and 55,000 are now offered for subscription at par. The properties are at present held by the Siloewas Company.

KARAK RUBBER & CO.

The Karak Rubber Co. has been floated. The capital of the Company is £50,000. The present issue is £26,000.

BANTENG SELANGOR RUBBER CO.

The Banteng Selangor Rubber Company's lists were to open on Oct. 1st. The authorised capital is £50,000, with a present issue of £40,000. The directors are Messrs. Vincent Wickwar, and Stiven, and two others.

The purchase price of the estate Banteng Puchong is £24,000 in cash and shares; and dividends of 7 per cent. are guaranteed for the first three years.—*Malay Mail.*

NIKKAN GAS CO.

A charter has been granted to the new Nikkan Gas Company, of which Baron Shibusawa is the principal projector. The charter grants to the Company a monopoly of gas supplying in Seoul for 25 years.

KALI SELOGIRI SYNDICATE

The Kali Selogiri Syndicate has been registered with a capital of £25,000 in £1 shares, to adopt an agreement with R. C. Wright and L. A. van der Bergh van Heinenoord (vendors), to cultivate and exploit the Kali Selogiri Estate in Java, and any land which can be acquired and worked in conjunction therewith, and to carry on the business of planters and growers of trees for the production of india-rubber, etc. Minimum cash subscription, 10,000 shares. Purchase consideration, £4,250 (£3,000 in shares and balance in cash). First directors (not less than three nor more than six):—R. C. Wright, W. Taylor, and H. de Courcy Hamilton. Remuneration, £50 per annum, divisible. Offices: Leadenhall House, 101, Leadenhall Street, London, E. C.—*Penang Gazette.*

NEW SHIPPING COMBINE

With a Board composed of leading Chinese financiers, merchants, and miners of the Straits and F. M. S.—including such well-known "strong men" as Messrs Foo Choon, Lim Kek Chuan, Kaw Joo Tock, Lim Seng Hooi, Yeoh Seng Lee, Goh Taik Chee, Quah Beng Kee, and other prominent members of the Chinese community—with capital amounting to $1,800,000; forty steamships all engaged for years in keeping up regular communication with South China, Burma and all the principal ports of the Straits, F. M. S. and Netherlands Indies; and with the six water-boats, workshop and steamships belonging to Messrs. Hock Chong & Co., the Eastern Steamship Company Ltd., which is now being floated, should, as the prospectus intimates, prove a very profitable investment for the shareholders, for by forming a 'combine" consisting of the Koe Guan Co., Quah Beng Kee, Hock Chong & Co., Teong Eong Keok and Lim Eow Hong, of Penang, the element of competition will be eliminated from the outset, while the strength invariably resulting from unification of interests must result in distinct and permanent advantage.

The "moving spirits" in this enterprise are Messrs. Lim Kek Chuan, Cheah Choo Yew and Lim Seng Hooi and they have under five separate agreements made between themselves and the five firms and persons above mentioned acquired options for the purchase of the steamships and property above referred to at prices amounting in the aggregate at $1,308,550. The agreements provide that upon the exercise of the options the promoters shall sell to the Company the forty steamships and property aforesaid amounting in the aggregate to the sum of $1,308,550. The purchase price will be paid as to 75 per cent. in fully paid up shares in the Company and the balance in cash.

The capital of $1,800,000 is divided into 180,000 shares of $10 each. 65,000 shares are now offered for subscription at par, payable $3 per share on application and $7 on allotment. Application for shares, with remittance, should be made to the Penang branch of the Chartered Bank on or before 30th November.—*Times of Malaya.*

SUGAR INDUSTRY IN JAPAN

The consumption of sugar in Japan has reached 500,000,000 *kin* a year, and is still increasing, and the Japanese output including Formosa ranges from 150,000,000 *kin* to 200,000,000 *kin*, amounting to 300,000,000 *kin* being imported from abroad. The raw sugar from Java is predominant, but Japan posseses the territory of Formosa which is well suited to the cultivation of sugar, so that if properly managed and encouraged the output from this island will in future cover the total supply of sugar consumed in Japan. The climate and soil of Formosa are congenial to sugar planting, and according to the statement of older folks there, previous to Japan's possession of the land, the output of sugar per year amounted at one time to 300,000,000 *kin*, but with the importation of foreign sugar, the amount of the output dwindled into some 100,000,000 *kin*. This is chiefly owing to the imperfect system of producing and refining sugar, such as was practiced by the people from ancient times, and naturally, the Formosan product can not compete with foreign sugar refined by the employment of up-to-date machinery. Neither the soil or climate of Formosa is inferior to those of Java and Hawaii but on the contrary, the former is superior to the latter in some respects of climate so that, could we improve the manufacturing process, we would be able to increase its output, and Formosa would be able to supply the vast amount of sugar imported to Japan. Such has been the opinion of experts, and this has been confirmed by the recent attitude of the Formosan administration by whose initiative the Formosan Sugar Refinery Company was established. The experience of the company will show that the Formosan sugar industry is carried on after up-to-date methods.

The average output of Formosan sugar at present is 100,000,000 *kin*. Should these figures be increased by two or three times, there would hardly be in excess of the demand at home. The area of the field in the Southern part of Formosa is 219 000 *cho*,* and the plantations cover an area of a little over 20,000 *cho*, that is, 2/10 per cent of the whole area. There is ample room for doubling or trebling the plantations, thus increasing the output of sugar which will be all consumed at home. With all the richness of material and an extensive market, the Formosan sugar industry is a promising one. By way of giving an example, let us give the outlines of the report of the Formosan Sugar Refinery Co. The Company was established in 1900, and was the first one that employed up-to-date machinery. The capital of the company was one million *yen* originally which was increased to five million *yen* last year, and after its incorporation with the Daito Sugar Refinery Company, the capital of the company was 10,000,000 *yen* of which 3,250,000 *yen* was paid-up capital, to which may be added the sum of 900,000 *yen* which will be called for by the 15th of September next. According to the progress of the business of the company, calls for the payment of subscriptions will be sent out. Mr. Fujita is Chairman of the Board of Directors, Messrs. Takechi and Yamamoto are managing directors, and Messrs. Suzuki, Tajima, Masuda directors, and Messrs. Okamoto, Tsuda, and Kada are directors. Messrs. Masuda and Irwin are advisers. The Imperial Household owns 9,000 shares. Among other shareholders, we may mention such names as Mori, Hosokawa, Kikkawa, Hayashi, Soma, Mitsui, Murai, Imamura, Hara, Fujita, and some Americans. The total number of shareholders does not exceed 293. The sugar mill of the Formosan Sugar Refinery Company is situated within ten miles of Tako where the Formosan Trunk Line station is situated. Branch-lines run into the factories whereby materials and finished articles are conveyed. Besides the old refinery, new buildings will be completed by October and works will be operated simultaneously with other works. The second, the third and the fourth refineries will be all completed in the near future. All the plans and designs have been made by the Honolulu Iron Works, Hawaii, where the most up-to-date plants will be set up, parts of which have been made in Hawaii and the other parts in America by Milliken Brother & Co., New York. The buildings have iron frame work made by a celebrated American shop, and are four stories high. Special characteristics of these works are that in the vicinity they are in the possession of 4.500 *cho* of plantation and 40 miles of railways for the purpose of cultivation and transportation of material. Railway lines of 140 miles length passing through the districts where materials are grown will be laid by October of next year, when new works will be completed, and freight cars conveying goods will be put into service. We have rich plantations everywhere, but that of the third works extending over 3,000 *cho* has every transportation facility and a system of irrigation. The whole district is a wonderfully rich rice paddy field, and the amount of its products has reached 23,000 *koku* of unhulled rice (11,500 of hulled rice) twice in a year. The company has in operation two steam ploughs, and tenants will be taught to raise sugar cane after the Hawaiian system. The third and fourth works will be started next November and the amount of output is estimated at 50 000.000 *kin*. The net profit of the company was 23 5/10 per cent for 1905, and 23 2/10 per cent against the capital for 1906. With a view to solidifying the management of the company, only ten per cent dividend was declared and the rest was carried to the reserve fund. The net profit for the present year is not less than twenty five per cent. The officials of the company are of the opinion that when new works with up-to-date plants are set up and business commenced, the work of the company will be altogether revolutionised so as to reap a net profit of 35 per cent, and as long as there is no sudden change in quotation of raw material, the profits of the company are assured.

NEW PUBLICATIONS

Manila Daily Bulletin's Anniversary Number.—The Fifth Anniversary Number of the Manila Daily Bulletin is brimful of valuable and reliable information about the Philippines, liberally illustrated and covering every branch of commerce as well as the industries of the archipelago. The Bulletin's annual edition has ever received a warm welcome and this one adds to the credit of the management of the enterprising publication. The issue contains articles on Baguio, the Summer Capital of the Philippines; The Philippine Constabulary; Abaca or Manila Hemp; The City of Manila; Orchid Growing for Profit and Pleasure; Building Railroads in the Visayas; Distilled Spirits Industry; Farming in the Philippines; Lumbering Industry; House, Home and Garden in the Philippines; Philippine Fisheries; Silk Culture in the Philippines; Cebu; Fruit Farming in the Philippines; Philippine Sugar Industry; Public Improvements; Minor Products of the Philippine Forests; Coast and Geodetic Survey; Protestantism in the Philippines; The Oil Seed Industry; Philippine Tobacco; Minor Philippine Fibers; Railroad building in Luzon; Mines and Mining; Commercial Advancement; Sago and Tapioca; The Philippine Judiciary; Interisland Transportation and an article on Public Lands in the Philippines.

A Handbook of the Philippines, by Hamilton M. Wright.—This volume is an interesting portrayal of Philippine life as the author found it during his extensive travels throughout the archipelago and will be found of great interest to those who have not had the opportunity of studying these people in their own country.—In view of the many volumes that have been written on the islands, Mr. Hamilton's handbook will be welcomed as the most thorough and up-to-date portrayal of Philippine character. Several chapters are devoted to the industries and commerce of the islands. Throughout, the book is well illustrated and for a cursory resume of conditions, should be welcomed. The publishers are Messrs. A. C. McClurg & Co., Chicago. Cloth, $1 40

BRITISH MAIL SUBSIDY

The text of the new contract between the British Postmaster-General and the P. and O. Company for the conveyance of the India, China and Australia mails was issued in London towards the end of last month. By the new contract the annual subsidy will be fixed at £305 000. Under the contract of 1904 it was £340,000.

Mines, Mining and Minerals in the Philippine Islands

(Edited by the Bureau of Science, Manila)

MINING PROSPECTS ON AND NEAR THE ZAMBOANGA PENINSULA, MINDANAO, P. I.

BRIEF SUMMARY OF THE GEOLOGY

Coal—Sibuguey Bay. Gold—Tumaga River.

Up to the present time for all we know of the geology of this particular part of the world we have been indebted to the famous traveller and geographer, Ferdinand von Richthofen, recently deceased in Berlin. Von Richthofen's contribution to the geology consisted chiefly in the finding of nummulitic (Eocene) limestone in a piece of "float" in the neighborhood of Zamboanga. The period and conditions then prevailing in the country made it impossible for him to do more.

Owing to even more unfavorable conditions that well-known and very experienced geologist, Mr. George F. Becker, who accompanied General Otis in his military operations in 1898, was prevented from carrying on any studies along this line.

The fact that the writer has been able to obtain some new data here is due solely to circumstances. Now the country is at peace and every facility of an extremely efficient military organization has been brought to aid in this work. There are still many obstacles to overcome, but which only time and good government can remedy.

The Zamboanga peninsula owes its existence to a sharp bowing up of the strata along a northeast and southwest line. Considerable metamorphism is to be found as a result of intense lateral compression, and therefore it is difficult to give the exact original succession of strata. With the exception of a very pronounced development of schists along the axis of the peninsula, the formations are almost identical with those of the middle and northern portions of the archipelago. If, as we have every reason to believe to be the case, the coal measures have been included in the same compressive movement as those which gave origin to the schists, a most favorable condition is at hand for the formation of bituminous coal.

The real structure of the peninsula is not revealed until one penetrates ten miles or more into the interior, as a recent lava capping, which is partially cut away by the streams and which borders the coast, conceals the foundation rocks.

At this stage of mineral exploration in the Zamboanga peninsula, which may be said to be but scarcely begun, there are only two subjects which warrant mentioning. They are the Sibuguey coal deposit and the Tumaga gold prospect. We shall discuss the latter first.

Gold has been found about twenty-five miles north of Zamboanga. It is found in a stickey yellow clay, the upper weathered portion of the underlying schists, but apparently only in very moderate quantity. Its original home was the quartz stringers in the schist. No veins large enough to work has yet been located. The only apparent profitable method of working such placer ground would be by hydraulic means, and as the city of Zamboanga is at present, and probably will, for some time to come, be dependent upon this river for its water supply, there would undoubtedly be serious objections to this method.

Three or four Zamboanga prospectors worked very industriously in this region for over a year sluicing, but apparently did not get a great deal to repay them. Prospecting for a main lode should be continued, but placer ground should be sought nearer the mouths of the streams where dredging might be done. For some time to come all thought of accomplishing much in the interior of the peninsula will have to be given up owing to absolute lack of roads and topographic conditions which will make their building extremely costly.

The Sibuguey Coal Deposit.—Tho' not strictly on the Zamboanga peninsula, the coal deposits on the Sibuguey river are close enough to be considered here.

A complete inspection of the deposits could not be made in a short time, but enough was seen to make it clear that exceptionally favorable conditions obtain in this locality, and it is the intention of the Mining Division to carry on a thorough detailed examination of this deposit, as soon as a party is available.

All that can be said now is that for outcrop coal the Sibuguey coal has better appearance than that of any coal so far found in the archipelago which has been investigated by the Division of Mines.

Water transportation to the mine mouth, a distance not exceeding thirteen miles, is perhaps the next most favorable point. Second, the topography of the country is very regular and with little relief, and the elevation above sea level not over 150 feet. The seams have a westerly inclination, varying from 23 to 45 degrees. Timber is plentiful in the neighborhood of the workings.

Perhaps the least favorable feature of the whole proposition is the matter of an anchorage for ships. A more careful survey of the bay may reveal suitable moorings for ships while loading.

From the nature of the geology of the Zamboanga peninsula it is not improbable that a very good bituminous coal will be found nearer Zamboanga, and it is not entirely without the bounds of possibilities that anthracite may one day be discovered. The formation of anthracite is not altogether dependent upon age, but is largely dependent upon the degree of metamorphism, whose chief factors are pressure and heat. Even from a very cursory examination of the formations one can see that the metamorphism of the rocks in this region has been very intense.

—WARREN D. SMITH

Zamboanga, P. I., Oct. 27, 1907.

MINING NOTES

Mr. Robert E. Hanley, M. E., a well-known mining expert, arrived in the Islands last month for the purpose of looking oves the Mancayan copper property in the interests of Boston capitalists. If his report is satisfactory it will mean the investment of about $8,000,000 in the development of the property including the construction of a railroad from the West coast of Luzon to the mines. This property is now controlled by the Lepanto Mining Co. Mr. Hanley leaves soon for the hills. In addition to the development of the copper, should the report prove favorable, a large mining syndicate will at once proceed to make a thorough prospect of the different mining zones in the archipelago.

Mr. Maurice Goodman, mining engineer and geologist of the Division of Mines, has just returned from Mancayan, where he made some surveys for the government.

Mr. A. Heise of the Eastern Mining Co. returned recently from a trip to Masbate and reports most favorably on conditions there.

Mr. W. D. Smith, acting chief of the Division of Mines, has completed a preliminary survey of the mineral deposits of the district of Zamboanga and is now at Davao, Mindanao.

The clean-up of the Benguet Amalgamated Mining Co. for the three weeks just ended was 230 ounces. This company is installing another three stamp mill.

The Bua Mining Co. of Benguet will complete the installation of its plant and will start active operations December 1.

During the visit of Secretary Taft to Baguio, he made a tour of inspection of the properties of the Benguet Consolidated and the Bua Company and was greatly surprised and pleased with the development work done and the splendid results obtained.

Writing from Mancayan, Colonel Gaffeney, the veteran prospector and pioneer of the Philippines, declares that the unfolding of the rich deposits of gold and copper in Mancayan and Suyoc has just begun and that the future of that district never looked brighter.

The Paracale placer fields are coming to the front and center. Last week a 60 ounce gold brick was received at Manila as the result of the initial run and the manager reports an accumulation of black sand that contains a large quantity of fine, freemilling gold. The Paracale company is not equipped to grind and amalgamate this sand and until the plant is secured it will be shipped to the United States.

In addition to these works a company has been formed with a capital of ₱50,000 by Spanish, American, and Filipinos to develop the famous Tumbaga mines in the Camarines. Pumping machinery has been ordered.

Manager Boag of the Gold Bug Mining Co. of Masbate reports progress in development work and expresses himself well pleased with the showing. "It looks better every day," he says.

CURRENT NEW YORK WHOLESALE PRICES OF METALS, MINERALS, CHEMICALS, ETC.

Selected from the Engineering and Mining Journal

		U. S. Currency.
ABRASIVES.—		
Bort, good drill quality	carat	$ 85 00
Carborundum, grains	lb.	.10- 17
Corundum	"	.07-.10
Emery, grain	"	.035-.045
Pumice Stone, American powdered	100 lbs.	1.60-2.00
ACIDS.—		
Hydrochloric 20°	lb.	1.25-1.50
Nitric, 38°	"	4.25-4.625
Sulphuric, 66° bulk	ton	18 00
Aluminum, Sulpbate Com'l	lb.	1,25-1.60
Antimony, needle	"	.085- 09
Arsenic, white	"	.07¼- 07½
ASBESTOS.—		
No. 1, crude	sh. ton	233.00
Fiber No. 2, paper stock	"	17.20
ASPHALTUM.—		
Trinidad	ton	30 00-32.50
California	"	22.50-30 00
Bleaching powder, 35%	100 lb.	1 25-1.40
Blue Vitriol	"	7.00
Bone Ash	lb.	.02¾- 04
Borax	"	.07½-.08
*Caps detonating	M	7 50
CEMENT.—		
Portland, American	500 lbs. bbl.	1.55-1 60
Foreign	" "	2.25-2.90
Rosendale	300 " "	.85
*Green Island	375 lb. bbl.	2 65
*Alsen		2.75
*Dromedary		2.50
*Rizal		2·50
*Independencia		2.50
CLAY, CHINA.—		
American common	lg. ton	8.50-9 00
Foreign	"	11.50-17.50

COALS.—		
Japanese		5 75
Australian		6 00
Copper	lb	.175-.18
*Dynamite 40%	"	.20
Feldspar ground best	sh. ton	14 00
Fire brick American	M	30.00-40 00
Imported	"	30 00-45 00
Fire clay, St. Louis Mill	ton	2 50
*Fuse-Blasting	1,000 ft	7.50
Graphite-American ore, common	lb	.01.10
Artificial	lb	.06
Guano	sh. ton	
Gypsum-Fertilizer	sh ton	7 00
Powdered	sh ton	10 00
Lead	lb	.05 05¼
Magnesite-Greece, crude, 95%	lg. ton	7.00-8 00
Bricks, domes	per M	160-200
Manganese, pure, 98-99%	lb	.75
Ore, 80-85%	sh. ton	35 00-60 00
Mercury, export flask	75 lbs	41 00-42.00
PAINTS AND COLORS.—		
Litharge American P'w'd	lb	.07¼-.07¾
Ochre, Am. Com	sh. ton	8.50-9.00
Paris green, pure, bulk	lb	.26
Turpentine, spirits, bbl	gal	60½
White lead, Am. dry	lb	.06⅝-.07
Am. in Oil	"	.07¼-.07½
Zinc, white, Am. extra dry	"	.05⅜-.05½
Phosphates, Acid	per unit	.65-.67½
Florida hard rock	lg. ton	10.25-10 50
Land pebble 68%	"	5 75-6 00
Potassium Cyanide (98-99%)	lb	18 -.19
Platinum	oz	26.00-28 50
*Powder, black blasting A	lb	.15
*Judson	"	.13½
Pyrite, Domestic Non-arsenical, lump	unit	.11-.11½
Imported non-arsenical lump	"	.13-.14
Imported, arsenical	"	.12½-13
Saltpeter crude	100 lbs	4 25-4 50
Silica, Lump quartz	lg. ton	2 50-4.00
Ground quartz, ordinary	"	13.00-15 00
Glass sand, ordinary	"	2 75
Silver	oz	.687
Sodium cyanide (100% KCN)	lb	.18-.19
*Steel, octagon drill	lb	.14
Sulphur, Louisiana prime	lg. ton	22.12½
Roll	100 lbs	1 85-2 15
Flowers sublimed	"	2 20-2 60
Talc—Domestic	sh. ton	15 00-25 00
Italian, best	"	35.00-40.00
Tin	lb	.376
Zinc, metallic ch. pure	"	.15
Dust	"	.05⅞-.06¼

*Manila quotation.

REPORT ON THE SILIMPOPON COAL MINES, BRITISH NORTH BORNEO

An interesting report on the progress made in the development of the Silimpopon Coal Mines by Mr. J. H. Molyneaux appears in the British North Borneo Herald of October 16 and follows:

"I visited the Silimpopon Coal Mines on April 13th, where by the courtesy of the Manager I was enabled to view personally all the operations of the Company both above and below ground. I was astonished to see the enormous progress that had taken place since my last visit in 1905, and at the risk of repeating what may have been published before, will briefly review those matters which particularly attracted my attention, with a possible allusion to any interesting developments impending.

"*Sebatik Wharf.*—On our way to Silimpopon we touched at Sebatik. Here at the lower end of Cowie Harbor, as a 'tanjong' about 17 miles distant from Tawao, the Coal Company have cleared a considerable area of land and are now constructing a substantial wharf. The details of the dimensions of which are as follows:—The pier is being built of 15 rows of piles 8′ apart (each row containing 3 piles) of 'griting' wood capped with 'selangan batu;' on these are laid 6 long litudinals of sawn 'selongan batu' 9′×4″ covered with sawn 'selengan batu' planks 14′×6″×3″. This pier at date of visit was nearly completed. The T head is to be 100′×33′ in size, constructed in the same manner. The whole length of wharf when completed will be 155′. The depth of water off T head is estimated at 30′ at lowest spring tides. Arrangements are being made on shore to store 5,000 tons of coal. A self-travelling steam-crane is shortly to be erected, capable of lifting 2 tons gross with a radius of 16′, for discharging lighters and loading ships. Hopper wagons with bottom doors carrying a net load of 1 ton will be lifted by the crane over the ship's hold. In short, the site selected for coaling ships admirably combines three essential characteristics: ample depth of water, contiguity to the shore, and perfect shelter in all weathers.

Silimpopon.—Proceeding thence up the Silimpopon River, the first clearing reached is that known as No. I camp; here stand the Manager's house, Godown, Office, Accountant's house, police quarters, etc. A large imposing-looking Hospital is in course of erection. Beyond this up river is No. II camp, which when the railway extension from No. III camp (infra) is completed will form the terminus of the line. Here the coal will be discharged from the trucks into lighters instead of, as at present, being unloaded at No. III camp, thus appreciably shortening the distance over which the lighters are now towed.

Further up again is No. III camp, the site of the cooly quarters and Chinese shop. The depth of water at the wharf at high tide is 7′. All these various points of the Company's workings are connected by telephone. From this point the railway runs to the mines, a distance of 14,000′, the line is constructed of 27 lb. rails, spiked on to substantial hard wood sleepers 2′ 6″ apart. The railway traverses seven bridges all substantially built on bilian piles and intersects numerous cuttings (the largest of which has a maximum height of 38′) exposing principally a formation of clay-shale and sand-stone. The extension of the line from No. III to No. II camp will be 3,800′ and is already approaching completion. We met numerous trucks loaded with coal coming down from the mine. The locomotive which I saw in process of erection has a tractive power of 20 tons over any gradient of the line.

Mine.—At the Mine active work was in progress, the stone drift at the date of my visit was pushed forward to a point 246′ from surface, and within 5′ of the coal. This will eventually constitute the principal adit to the mines. At a distance of 900′ to the rise of the stone drift, a circular shaft supported by iron rings with 2″ deal backing has been sunk to the depth of 35′, from the foot of which a heading had been driven to the length of 42′ directly into the seam at water level the coal being hauled up to the surface in buckets. An air pit has been sunk about 120′ West of the stone drift with a finished diameter of 9′. This has reached the coal and a dip heading will be driven from the bottom of this pit parallel to the stone drift. A connection will be made with the stone drift at the point where the latter touches the coal and the pit will act as a return ventilation shaft for the dip workings. The coal seam is 5′ 11″ thick and the coal to be tapped by these approaches has been proved over an area of 100 acres.

At No. 1 adit a considerable area of rise coal has been opened out and upwards of 3,000′ of headings driven in various directions in the coal.

At No. 2 adit a large field of rise coal has been opened out by a road driven at water level into the hill side. A hauling engine is being installed to deal with the coal to the dip of this road. The actual daily output of coal had reached 43 tons.

Labor.—The total number of coolies now employed by the Company is 427, of which 100 are Malay. 69 coolies were at work under ground. With the exception of seven trained Indian miners imported from the Punjab as an experiment, all the coolies have been recruited locally and trained at the mines, this is chiefly responsible for the low death rate and the very small amount of sickness prevalent.

Transport.—The Company owns a launch and three tongkangs for the carriage of the coal, down the river. Of the tongkangs one is of 465 tons capacity, the largest I believe of its kind in British North Borneo, and the other two are each of 120 tons maximum capacity with a 6′ 6″ draught. The river has been thoroughly cleared of all impediments to navigation and is carefully beaconed on both banks.

F. M. S. TIN.

The advance figures (liable to correction) of the export of tin from Perak for September, excluding the Districts of Matang Selama and Krian, have been forwarded for publication by the Acting Secretary to the Resident of Perak:—

Tin ..... 8,577 piculs 2 catties.
Tin-ore ..... 28,181 ,, 41 catties.
Duty ..... $408,803 68.

The Ipoh paper publishes a list of mining returns for September, which we summarise as follows:—

THE GOPENG MINES

The output of these mines in September amounted to 570 piculs—80 piculs better than August and only 18 piculs less than the best monthly output recorded this year—that for March, 588.

REDHILLS

The managers' figures show that no less than 425 piculs were won in September as against 380 in August. Last month's result constitutes a record for the current year, the published returns showing 380 in August and 380 in April, which were the highest figures hitherto.

NEW GOPENG

The September returns from New Gopeng, Limited, give 220 piculs as compared with 219 in August.

KINTA TIN MINES

The returns for the Kinta Tin Mines, Limited, for September show that 325 piculs of ore were won; 5 piculs better than August. This is the second highest monthly output this year, the record being 350 in July, when there was no shortage of water in the district.

RAMBUTAN

The output from Rambutan Mine for September was only 80 piculs. The largest monthly output this year was 357 piculs in April.

SERENDAH

The output from Serendah Mine last month was 645 piculs of ore. The average for the nine months ended 30th September is highly satisfactory, the outputs being 1,037. 923, 947, 654, 724, 608, 663, 701, and 645.—*Penang Gazette.*

MINERAL PRODUCTS OF JAPAN

According to investigations made by the Department of Agriculture and Commerce, the mineral products of Japan, excepting Formosa, in 1906, were as follows:

	Quantity.		Value
			yen.
Gold	794,583	*m'me*	3,795,772
Silver	20,161,481	"	3,239,765
Copper	58,746,257	*kin*	26,302,204
Lead	4,570,708	"	432,466
Iron	42.718	tons.	2,?95,595
Coal	12,974,?74	"	63,364,128
Sulphur	45,722,221	*kin.*	612,461
Kerosene Oil	1,378,211	*koku.*	3,840,430
Sundry	—		417,950

Momme, about 3.75 grams; *kin*, 1.32 lbs.; and *koku*, about 40 gallons.)

The total amounts to a hundred and four million *yen* in round figures. In 1887, the yield amounted to ten million *yen*; and in 1897 aggregated thirty-four million *yen*. Among the mines, the following are the most prominent:

	yen.
Mitsui's Miike Coal	7,700,000
Fujita-gumi's Kosaka Coal	7,100,000
Furukawa's Ashio Copper	4,800,000
Sumitomo's Besshi Copper	4,300,000
Hokkaido Tanko's Coal	3,700,000
Kaijima's Onoura Coal	2,400,000

FAR EASTERN ENGINEERING, CONSTRUCTION, COMMERCIAL AND FINANCIAL NEWS

ELECTRIC RAILWAYS, LIGHTING, POWER, ETC.

PERAK MOTOR SERVICE.—A company has been formed for the purpose of establishing a motor car service between Kuala Kangsar and Grit, Upper Perak.

ELECTRIC LOCOMOTIVE IN NEW ZEALAND.—In the gold mines of New Zealand the electric locomotive is being used both underground and for surface work.

OSAKA-KOBE ELECTRIC LOAN.—This company is reported to have arranged a loan of one million yen with American capitalists at a rate less than 7%.

LAHORE ELECTRIC SYSTEM.—The Punjab government has granted a license to the Punjab Power Association to supply electricity to the city and the suburbs of Lahore.

YOKOHAMA ELECTRIC EXTENSION.—Official permission was given on October 7 to the Yokohama Electric Tramway Company to extend the present line to Takigashira, via Hagoromocho, Hisakatacho and Kumoicho.

ELECTRICIZING JAPANESE LINES.—The electric lines between Shimsashi and Uyeno and between Akabane and Ikebukuro are to be electricized. The work of erecting the trolley wires will be begun at once.

MANCHURIAN TELEGRAPHS.—The Imperial Chinese Administration has extended the telegraph lines in Manchuria to such an extent that all the principal town are in communication with each other.

YUET HAN RAILWAY TELEGRAPH.—It has been decided by the engineer-in-chief of the Canton-Hankow Railway to install a telegraph service along the route of the Yuet Han Railway instead of using the telephone system proposed.

GAN-HAN ELECTRIC RAILWAY.—The Gan-Han Electric Railway to be constructed between Taira, Iwaki province, and Koriyama, Iwashiro province, via Miharu, has been sanctioned by the Government. The total mileage covers forty-five miles and the capital is 1,450,000 *yen*.

ELECTRIC SUPPLIES FOR CEYLON.—The comptroller of government stores, Colombo, Ceylon, has invited manufacturers to send in their respective catalogues of electrical supplies. It is the purpose of the Ceylon government to install a number of plants for power light, etc.

VLADIVOSTOK ELECTRIC TRAMWAY.—The municipal council of the city of Vladivostok has authorized the expenditure of 540,000 roubles for the construction of an electric tramway throughout the municipality. Work on the improvement of the streets, as a preparatory measure, has been commenced.

ELECTRIC LIGHTING FOR RANGOON.—Street lighting with oil is carried out by contract as in previous years. The Contractor last year was paid Rs. 41,923, during the year, as against Rs. 40,948, in 1905-06. Progress is being made by the Electric Tramway and Supply Company in preparation for lighting the streets by electricity and it is expected that a start will be made in this direction at the close of 1907 or early in 1908.

GREAT NORTHERN TELEGRAPH CO. TO SELL TO JAPAN.—The Japanese government is negotiating with the representatives of the Great Northern Telegraph Co. for the purchase of the lines of the company extending from Kyushu via Tsushima to Fusan, Korea, 42 nautical miles; from Nagasaki to Vladivostock, 740 nautical miles; and from Nagasaki to Shanghai, 417 nautical miles. It is expected that when the Nippon government takes charge that the rates of transmission will be greatly reduced.

WIRELESS IN MINDANAO.—During the last fiscal year, according to the report of General Bliss, department commander, a system of wireless was installed in Mindanao and Jolo and satisfactory communication established thereby between the headquarters at Zamboanga and the station at Jolo. He has recommended that another station be established at Malabang or Parang Parang, preferably the latter owing to its altitude. He also recommended that provision should be made to keep the Zamboanga station in touch with Manila by wireless independent of the present system of telegraph lines and cables.

RAILWAYS AND RAILWAY SUPPLIES

INDIAN RAILWAY SUPPLIES.—Tenders were opened by the Indian Railway Board, November 3, for the supply of 50,000 sleepers for the Oudh and Rohilkhand Railway.

KIAOCHOW RAILWAY.—The Chinese minister at Berlin has registered a protest at Peking against the extension of the Kiaochow-Chinan Railway by Germany.

TONGSHAN LOCOMOTIVES.—The new locomotive for the Peking Kalgan line was turned over to the company by the Tongshan Locomotive Works last month.

DOUBLING SOUTH MANCHURIAN RAILWAY.—The doubling of the South Manchurian Railway will be completed by the first of the year, if the material ordered arrives from America as expected.

YOKOHAMA-HACHOJI RAILWAY.—It is expected that the Yokohama Railway Co. will have the rails laid on the Yokohama-Hachioji line by the end of the year and that it will be open for traffic some time in January.

INDIAN RAILWAY CLEARING HOUSE.—*Railways* announces that the subject of a clearing house for Indian railways will be discussed at the Railways Conference to be held at Simla shortly.

CANTON HANKOW REDEMPTION.—The annual instalment of the redemption of the Canton-Hankow Railway from the American Syndicate, amounting to $500,000 has been remitted by the company.

OVERTON-LAKE LANAO RAILWAY.—General Bliss, commanding the Department of Mindanao, has again recommended the construction of a narrow gauge railway between Camp Overton and Lake Lanao for the transportation of troops and supplies.

CANTON-MACAO RAILWAY.—It is reported that the agreement between the Chinese and Portuguese governments in regard to the construction of the Canton-Macao road has been cancelled and that a new proposition will be submitted in a short time.

DAMAGE TO JAPANESE RAILWAYS.—Damage sustained by the various railways from floods in August amounted to:—Chuo, *yen* 250,000; Shin-yetsu, *yen* 50,000, Tokaido, *yen* 291,500;Gan-yetsu, *yen* 130,000; Nippon, *yen* 45,000; and Bankaku and Maidzuru, *yen* 42,000.

CANTON-KOWLOON RAILWAY SURVEY COMPLETED.—A report from Canton announces that the survey of the Chinese section of the Canton-Kowloon Railway route has been surveyed and the report of the engineers accepted.

AMERICAN LOCOMOTIVES FOR JAPAN.—Among the rolling stock ordered from the United States by the Japanese government, 26 locomotives are for the Hokkaido Railway; 24 of the eight wheel type for the other lines and three Moguls for the Kangsu line.

TIMBER FOR PHILIPPINE RAILWAYS FROM MINDANAO.—The *Mindanao Herald* announces that besides large quantities of piles and bridge timbers, more than 10,000 ties have been shipped out of the districts of Zamboanga and Cotobato for Philippine railway construction.

LARGE RAILWAY PROJECT FOR KOREA.—Marquis Ito is said to be interested in persuading the Korean government to raise a loan of 120,000,000 yen for the purpose of building a sytem of railways throughout Korea.

CANTON HANKOW RAILWAY TUNNELS.—The longest tunnels found necessary to construct the roadway through the Feiloi pass will not exceed 300 feet. A number of Canadian engineers have been engaged to take charge of the work of construction.

PEKING-HANKOW REDEMPTION.—The Belgian Syndicate has declared that the redemption price of the Peking-Hankow Railway is £4,400,000. The Belgians claim more than the actual cost as the term of agreement has not yet terminated.

FEDERATED MALAY STATES RAILWAY TENDERS.—Tenders were invited by the F. M. S. for the contract of loading and unloading freight carried by the railway in Selangor, Negri Sembilan and Malacca, at Port Swettenham and all other stations along the lines of railways. Tenders were opened October 31, 1907.

THE SZE-CHAUN RAILWAYS.—The Board of Posts and Communications at Peking has directed the acting-viceroy of Sze-Chaun to engage a staff of engineers to survey the proposed lines or railway in that province and to prosecute the construction with as much expedition as possible.

KUALA LUMPUE RAILWAY STATION.—Plans are being prepared by the F. M. S. Railways for the construction of a commodious and modern depot at the federated capital to cost in the vicinity of half a million dollars. The work of construction is expected to begin early next year.

JUNCTION OF HONAN RAILWAY AND THE PEKING-HANKOW.—A subscription of Tls. 150,000 has been collected for the purpose of connecting the Honan and the Peking-Hankow Railways at the depot at Hoshanchiao. An engineer has been engaged to survey the route of the connecting link.

CANTON KOWLOON RAILWAY.—Three surveying parties are at work on the survey of the exact route of the Canton-Kowloon Railway. One party is at work in the suburbs of Canton, another is at Shek-lung and a third is operating from the terminus of the British section.

RATE WAR IN MANCHURIA.—The Hsinmintun-Mukden Railway has retaliated against the recent cut in rates made by the Southern Manchurian Railway by reducing the freight tariff one yen on beans and bean products between Mukden and Newchang. This practically takes away the export bean trade from Tairen and the Japanese.

CAWNPORE-BANDA RAILWAY.—A railway, 147 miles in length, from Cawnpore to Banda via Hamirpur and Mandha with a branch from Harpalpur via Rath, is now being surveyed under the direction of the government. The gauge is 5 feet, 6 inch. This road will connect with the Great Indian Peninsula Railways at Cawnpore.

SOOCHOW, HANGCHOW, NINGPO RAILWAY.—Peking has notified the British minister that in view of strong protests filed with the Waiwapu from the governors of Kiangsu and Chenkiang and other railway companies in these provinces, that no foreign loan would be entertained in connection with the Soochow, Hangchow and Ningpo Railway and that the provisional agreement has become null and void.

CHINESE LOCOMOTIVE FACTORY PROPOSED.—A factory for the manufacture of locomotives, rails and other railway equipment is proposed and a company with a capital of 400,000 taels is being formed to carry out the project. The site selected as most favorable is the bund at Wuchang. The output of the factory will be utilized primarily to supply the rolling stock of the Szechuen-Hankow and the Hankow lines.

TOKIO RAILWAY EXTENSION.—On Oct. 14th official sanction was given to the Tokyo Railway Company for the construction of 22 new urban lines and two suburban. At the same time eight applications made by other companies for permission to lay lines which would compete with those of the great Company were rejected. These rejected lines are named the Asabusa, the Johoku, the Jo-o, the Yoshiwara, the Tamawaga, the Asakusa-Soka, and two circular lines about the city.

KWANTUNG-KWANGSI RAILWAYS.—Owing to lack of funds to carry out the scheme for the construction of the entire system of railways in Kwangsi, the directors have made a proposal to the directors of the Yuet Han Railway to combine and build a line connecting Samshui with Wuchow. The Kwangsi company will thus build the line from Wuchow to the Kwangsi-Kwangtung border and the Canton-Hankow Railway is to construct the line from Samshui to the Kwangtung-Kwangsi border to connect with the Wuchow line.

MUKDEN-ANTONG RAIL RAILWAY.—The South Manchurian Railway Co. has decided that the expenditure of 35,000,000 yen in the construction of a line connecting Mukden and Antung is not warranted in the probable immediate returns on the investment and the company is now considering the construction of a line between Antung and Taschichao connecting it with the Seoul-Wiju line in Korea and also with the Chinese Lu-Han Railway. The latter scheme will cost yen, 25,000,000 as against yen 35,000,000 for the Mukden-Antung line. The matter has been submitted to the War Department.

TOKIO RAILWAY EXTENSION.—The *Kokumin Shimbun* gives a list of the extensions now in process of being made by the Tokyo Railway Company. The first is from Shiocho in the Yotsuya district to join the line passing the Aoyama parade ground. The second is from the fourth ward of Hongo to Denzuin in Koishikawa, and the third is from Suidobashi to Hakusan in Koishikawa. These three extensions will be open to traffic in November. Then there are the line from Hiro to Shinohashi, the land for which has already been bought and work is progressing rapidly, and the line from Yedo-gawa to Tenjinmachi, which will be immediately commenced, instead of that from the former place to Otowa, the construction of which will be somewhat deferred.

REVISION OF JAPANESE PASSENGER TARIFF.—An uniform rate was put in operation on all the Japanese government railways on November 1 covering the transportation of passengers. The third class rate is taken as a basis, the second class being 75% higher than the third class and the first class just double the third class. The third class tariff now in effect follows:

	Per mile.
Less than 50 miles	1 sen 6 rin 5 mo.
Over 50 miles but less than 100 miles	1 sen 3 rin.
Over 100 miles but less than 200 miles	1 sen.
Over 200 miles but less than 300 miles	8 rin.
Over 300 miles	7 rin.

PUBLIC AND PORT WORKS, DOCKS, WHARVES, ETC.

FUKUOKA WATERWORKS.—The municipality of Fukuoka is planning the expenditure of yen 2,650,000 in the construction of a modern system of water supply.

MOJI WATERWORKS.—The cost of the proposed waterworks at Moji is estimated at yen 1,660,000. The question will be discussed at a meeting of the Municipal Council and a definite decision will then be arrived at.

OFUNADO HARBOR.—The proposed construction of a harbor at Ofunado is receiving some attention and the surveys are well on the way. In addition it is proposed to build a railway from Kurosawajiri to that point.

OTARU WATERWORKS.—The Otaru Municipality has arranged for a loan of a million yen to be expended in the construction and installation of a modern water supply system.

SOUTH SAGHALIEN IMPROVEMENTS.—The sum of yen 2,600,000 has been authorized expended by the Japanese authorities for the improvement of the public highways and the construction of public building in Southern Saghalien.

IMPROVEMENTS AT KEDAH.—The construction of about forty miles of road with new bridges in Kedah is under way. New wharves and jetty sheds with a frontage of 300 feet on the river. Messrs. Riley, Hargreaves & Co. were awarded the contract for the construction.

GARDEN RIVER BRIDGE.—The work on the Garden Bridge over Soochow Creek is nearing completion. The iron girders have been laid and the frame work is almost entirely in place. The bridge will be one of the most substantial structures in China when completed.

SASEBO PORT WORKS.—The work on the port at Sasebo includes the dredging of the harbor to a depth of 36 feet; the extension of the sea-walls and will be completed in 1909. When all plans are concluded six large battleships may swing at anchor in the harbor and vessels discharge alongside the extensive docks.

PEITAIHO WATER SUPPLY.—It s proposed by a Peking engineer that the water supply problem of the city of Peitaiho be solved by the sinking of an artesian well in a central location with a pumping engine and piping to the various centers of population. The cost is estimated at Tls. 5,000.

SAIGON WATERWORKS.—The new waterworks scheme at Saigon is receiving generous support and the public there is anxious to get rid of the old lead pipe installation that is blamed for much of the sickness in the settlement. Many cases of lead poisoning have been reported and it has been traced to the piping.

YOKOHAMA IMPROVEMENTS.—When the present reclamation work under way is completed there will be 3,709 feet of quay space added to the former area. The works will, when completed, be equipped with sheds, warehouses, cranes and railways. There are also reclamation works progressing at Kanagawa, north of Yokohama.

YOKOHAMA WATERWORKS.—The Yokohama city assembly proposes to construct a tunnel at Nojiri in the village of Mikage near the water supply source as a bed for the water mains with a view to protecting them from damage from landslides. The proposed tunnel is 180 feet in length, 10 feet high and 12 feet at the base. The cost is estimated at yen 10,000.

SHIMONOSEKI STRAITS IMPROVEMENTS.—The scheme of the Japanese government to expend 100,000,000 yen on the improvements of these important straits has been abandoned for the present and it has been decided that the sum of 10,000,000 yen only will be expended in removing the rocks that endanger the passage of ships. When the finances of the country warrants it, the original scheme will be carried out.

CANTON CEMENT WORKS.—Contracts for the supplying of iron and steel for the construction of the Chinese Government cement works at Canton have been awarded Messrs. Howarth, Erskine & Co. who are also general contractors for the buildings. The machinery is to be supplied by Messrs. Carlowitz and Co. The architects and engineers in charge of the construction are Messrs. Purnell and Paget of Shameen, Canton.

CANTON WATERWORKS SYSTEM.—With the completion of the laying of the water mains in the streets of Canton and the construction of the water tower, the Canton water supply system will be in operation. The reservoirs and filter beds are complete and the pumping machinery has been installed by the company. About one-half of the water mains have been laid and the *Hongkong Telegraph* reports that the foundation for the water tower is finished.

KYOTO PUBLIC IMPROVEMENTS.—The municipality of Kyoto has authorized the raising of a loan of yen 20,000,000 to be expended in the improvement of the streets of the city, the construction of a modern system of waterworks and the Lake Biwa canal. It is understood that the construction of the canal and the waterworks will be taken care of first as it is believed that sufficient revenue may be derived from these sources to redeem the bonds as they become due.

KOBE WATERWORKS.—The municipal authorities of Kobe are contemplating an extension of the water supply system so as to overcome the shortage that now exists. At the present time the authorities are arranging to lay down three filter beds and one distribution pond at Kitano and another line of pipes between Kitano and Nunobiki. In addition to this, meters will be provided at once to check the waste now entailed in the distribution of the water throughout the city. For this work about yen 350,000 has been appropriated and it is expected that by 1909 the work will be completed. After these measures have been taken the more extensive work of increasing the system will be undertaken. The streams of the Futatabi and Tenno may be utilized in case of an emergency.

MINES, MINERALS, AND THE METAL TRADE

DROUGHT AFFECTS TIN MINES.—The Bruseh and Jeher Tin mines in Perak have suspended operations on account of the continued scarcity of water.

KU KONG ANTIMONY.—The output of the mines in the Chart Ling Hills for September is reported to have reached 111,170 catties. Canton handled the entire amount.

PAHANG GOLD YIELD.—The total output of gold in the state of Pahang for the seven months ending July 31 was 6257 ounces. The yield for the year 1906 was 10,000 ounces.

JAPAN'S PETROLEUM OUTPUT.—The output of the petroleum wells of Niigata up to the end of September was 1,00,000 koku or an increase of 300,000 over last year's product.

ASIATIC OIL CO.—The Bureau of Commerce at Peking has given permission to the Asiatic Oil Co. to erect tanks at Chinan, Weihsien and Chowchien in Shantung along the line of railway.

COAL AT SHINKU.—Coal deposits reported to be of value have been discovered at Shinku, 40 miles west of Hsinmintun and the quality of the coal is said to be superior to that at Kaiping.

MACHINERY FOR HUNAN MINES.—The Peking Syndicate has purchased the machinery of the defunct Wei-hai-wei Gold Mines and has shipped it to Hunan for installation in the mines there.

KOREAN MINERAL WATER CO.—Viscount Okada is interested in the organization of a company in Korea with a capital of yen 300,000 for the purpose of exploiting the many mineral springs of the country.

GALAS RIVER SYNDICATE.—A syndicate has been organized under an agreement with Yek Guan Soon and Sett Tiang Lim, Prospectors, Miners, etc., Siam, for the purpose of extending the operations of the firm in Siam.

NAPHTHA IN SAGHALIEN.—The Russian authorities report the discovery of valuable naphtha springs at Nabibucht in the northern part of the islands. Foreign and Russian capital is being interested in their development.

BEROUW COAL MINES.—Promising deposits of coal have been found at Berouw, Dutch East Borneo. A company has been formed under the name of The Berouw Coal Co. with a capital of 1,000,000 guilders to develop the property.

MONGOLIA GOLD MINES.—H. Cappler, an American prospector, passed through Yokohama last month on his way to America from Mongolia, where he holds a number of rich gold mining grants. He reports that China is very rich in minerals.

KUAN CHUN COAL MINES.—The bureau of agriculture at Canton has authorized the expenditure of Tls. 10.000 in opening up the coal mines of Kuan Chun in the district of Yu Yuen. Work will commence at once under the direction of the magistrate there.

SILVER AND COPPER IN TAMBA.—Application has been made with the Japanese government for the development of promising silver and copper veins recently uncovered at Myoken-yama, Tamba province, and about two miles from the town of Fukuchiyama.

LOKE YEW MINES.—Loke Yew's mines at Kuantan, says the *Malay Mail*, have been turning out over one thousand piculs of tin a month and when the electrical plant is installed in the new mine at Serendah the increase there will exceed the output of the Kuantan.

IMPROVED PROCESS FOR TREATING TIN SLAG.—H. Mulinghaus, formerly interested in tin smelting in the Straits Settlements and now a merchant of Wiesbaden, Germany, has invented an improved process for the treatment of tin ore that has met with generous endorsement.

JAPAN COPPER AND SILVER DEPOSITS.—Manuel Essler, the well known mining engineer, has returned to Japan after an extensive investigation of mineral deposits in China, Manchuria and Borneo and will now make an investigation into the deposits of copper and silver in Nippon.

JAPAN'S MINERAL IMPORTS AND EXPORTS.—The exports in raw mineral product from Japan during the last fiscal year amounted to yen 29.063,175 in value while the imports amounted to yen 37,821,756. Copper was the principal export and iron comprised the greater portion of the import.

JAPAN'S GOLD YIELD.—Up to June 30, of the present year the total yield of gold amounted to 270,813 momme, a decrease of 32,316 momme compared with the yield for the same period last year. Strikes and accidents in the mines are responsible for this falling off. (A momme is a little over 8¼ pounds avoirdupois.)

SIBERIAN MINERAL WATERS.—An Irkutsk exchange states that the export of carbonate of magnesia and carbonate of soda waters from Siberia averages about 500,000 bottles and that the companies interested are now prepared to increase the output and compete with any mineral water on the market. The principal mineral springs are located at Yamarovsky and Darasoundsky.

GOLD MINES ON THE YALU.—The viceroy of Manchuria has rejected the application of Messrs. Bush & Co. of Tunghua for a concession to work some valuable deposits in that vicinity. This company has a capital of yen 300,000 and claims that it had an agreement with the former Tartar general to work the mines referred to. The company has filed a protest.

CENTRALIZING TRONOH MINES.—The company has decided to expend about £50,000 in installing a central electric generating station having a capacity of 2,000 H. P. Under the old methods, the cost of production was very high owing to the scattered plant which made it necessary to work the different small shafts separately The establishment of a big central power plant from which each section of the mines may be supplied with power at a very low price, will result in greatly reducing the cost of production.

BORNEO COAL.—The colliery operated by the Cowie Harbor Coal Co. is reported to have completed the tramway and the crane at Sebatik Island Wharf and by means of these additional facilities raised the daily output to 75 tons a day. According to the statement of the company's expert, the quality of the coal is excellent and the company does not anticipate any difficulty in finding a market for the entire product of the colliery. The consulting engineers claim that two and one-half million tons of ore are in sight within 6,000 yards of the first outcrops.

F. M. S. TIN EXPORT.—The advance statement of block tin and tin ore exported from the F. M. S. from January to September, 1907, and of the duty collected thereon, says the *Pinang Gazette*, shows that the total amount was piculs 582,564.39, as compared with piculs 582,932.13 in 1906, a decrease of 367.74 piculs. Perak shows an increase of 495.59 piculs and Selangor of 1,367.54 piculs, whilst Negri Sembilan shows a decrease of 2,-230.87 piculs. The duty paid was $7,363,367.57, an increase of $347,636.95 over the duty paid in 1906, which was $7,015,730.62. Perak paid $191,597.27, Selangor $151,853.60, and Negri Sembilan 4.186.08 increased duty.

SHIPBUILDING, GENERAL MARINE FISHERIES, ETC.

ROYAL PACKET NAVIGATION CO.—Five new steamers have been ordered by this company for the Java trade.

SUBMARINES FOR JAPAN.—Messrs. Vickers, Sons, and Maxim are engaged in the construction of two submarines for the Japanese navy.

STRAITS STEAMSHIP CO.—The new steamer, Kinta, which arrived last month from England for the Straits S. S. Co. has been put in commission.

RUSSIAN FAR EASTERN MERCHANT MARINE.—The Russian Far Eastern Industrial S. S. Co. has established a steamship service between Vladivostok and Kamchatka and Okhotsk. Many emigrants are being carried by the line.

BUOY CONSTRUCTION AT SANDAKAN.—The China Borneo Co. has taken the contract for the supply of buoys to the government and the necessary equipment has been added to the engineering department at the Sandakan Slipway.

SHIPYARD AT HANKOW.—The Japanese consul at Hankow has transmitted the request of a Japanese company for permission to acquire 20,000 square feet of land in the vicinity of the Yangtze bridge for the purpose of establishing a shipyard.

STRAITS SHIPPING COMBINE.—The Chinese capitalists of the Malay States and the Straits Settlements have pooled their shipping interests and the new combine will be under the direction of Mr. Beng Kee, a prominent shipping manager of the States.

P. & O. ENTERPRISE.—The P. and O. Co. has placed orders for the construction of three steamers of the Molvadia class, 11,000 tons, and one vessel of 6,000 tons to be run as an auxiliary mail steamer between Bombay and Aden. These vessels will be of the most modern construction and especially adapted to passenger traffic.

TURBINE STEAMER FOR JAPAN.—The steel turbine steamer Tamara Maru, the second of two vessels ordered by the Japanese States Railway for special service in the Tsugaru Straits. was launched on August 28 by Messrs. Denny & Bros. of Dumbarton. The vessel is 280 feet in length, 35 feet beam and 21 feet 6 inches in depth.

KOREAN MARINE PRODUCT.—The president of the Greater Japan Marine Product Industry Association is authority for the statement that the total value of last year's catch in Korea exceeded 4,600,000 yen and that this year's catch will exceed that figure. He says that the industry is in its infancy and that the fishermen should be encouraged by the government.

AUSTRALIAN COASTWISE LAWS.—The Navigation Law recently introduced in the Commonwealth senate provides that all vessels carrying passengers of freight from one Australian port to another will be considered as engaging in the coastwise trade and no foreign vessel will be permitted to engage therein without a three year license under a penalty of £500,000. Until the railway is built from Western Australia to Adelaide, British mail ships will be exempt from the conditions referred to.

ROUND THE WORLD ROUTES.—Few steamship lines send their vessels right round the globe. But the Chargeurs Réunis Company has done it for two years past, and is building five new twin-screw passenger and cargo steamers—three on the Tyne and two at St. Nazaire—to develop its "all round the world" service. The route is from Antwerp and Dunkirk, *via* the Suez Canal, to Singapore, China, and Japan. Then the boats run across the Pacific to Honolulu, San Francisco, and Puget Sound. Next they turn southward for Mexican, Central American, and West Coast ports. Passing through the Straits of Magellan, the steamers round into the South Atlantic, and after a call at Monte Video, and possibly at Brazilian ports, head for the British Channel. The whole voyage takes some 240 days. That there are people who have the time for it is suggested by the fact that the new boats are 500 ft. in length, and have plenty of single as well as double berth cabins.

FINANCIAL AND MISCELLANEOUS

NAGOYA GAS CO.—The newly organized gas company of Nagoya began operations on November 1.

DAVAO HEMP.—The planters of Davao are shipping about ₱100,000 worth of hemp from that port monthly.

SPINNING COMPANIES AMALGAMATE.—The Fukushima and Taisei Spinning Companies have decided to amalgamate.

TOKIO WOOLEN FABRIC CO.—This company has started the construction of a factory at Oji and placed an order for the machinery necessary to equip it in France.

KOREAN COLONIAL JOINT STOCK CO.—This company has been floated among Tokio capitalists for the purpose of leasing large tracts of wild Korean lands for settlements and development.

CLOCK MANUFACTURING COMBINE.—The Owari, the A chi, the Meiji Clock Manufacturing Companies, and the Kobayashi Manufactory in Nagoya, have decided to form a new company of 1,000,000 yen capital.

CAMPHOR INDUSTRY IN CHINA.—Camphor trees have been found in large quantities growing in the province of Kwangtung and an effort is being made to encourage the industry by the Chinese government.

FUKAGAWA FLOUR INDUSTRY.—Trial of the machinery in the To-a Flour Mill Co's on the Onagigawa in Fukagawa was made on October 5. This establishment expects to turn out 600 koku of powdered wheat a days

NIPPON SILK CO.—A company with a capital of yen 500,000 has been organized at Yokohama for the purpose of establishing a large silk plant at Ashikaga. The firm of Messrs. Strachan & Co. of Yokohama are the promoters.

JAPAN BEAN SAUCE MANUFACTURING CO.—This new company has been organized by Japanese capitalists

with a capital stock of yen 10,000,000. The promoter is Tozaburo Suzuki, the founder of the Japan Sugar Refining Co.

BANK AT PUKET.—An effort is being made to interest the banking institutions of the Straits Settlements in the establishment of a branch bank at Puket for the benefit of the Tongkah district which is now entering on an era of development.

TAYABAS SAWMILL AND LUMBER CO.—The Tayabas Co. has started operations and is equipped with a mill capacity of 40,000 feet a day. The company has the contract for the supplying of 600,000 feet of lumber to the Philippine Railway Co.

CHINESE CEMENT FACTORY.—The Chinese government is constructing a cement factory at Ponan, Kwantung province, which when completed will cost 300,000 taels. It is expected that the plant will be in operation about the beginning of next year.

FOOCHOW COPPER MINT.—Arrangements have been made by the viceroy for the repayment of the Tls. loan from the Hongkong and Shanghai Banking Corporation at the rate of Tls. 10,000 a month from the revenues of the government dockyard at Foochow.

JAPAN'S SUGAR TRUST.—An agreement is reported between the Tainan Sugar Manufacturing Co. of Formosa and the Taiwan Sugar Manufacturing Co. for amalgamation of their respective interests. The former company recently increased its capital to yen 2,000,000.

SILVER EXPORT PROHIBITED.—A petition has been sent up to the governor by the Kirin Merchants against the exportation of silver from that province as the outflow is seriously affecting trade. The governor issued instructions that in future no one will be allowed to transport more than $1,000 silver.

JAPANESE BANKS.—The number of Japanese banks at the end of September was 2223 and the amount of capital represented 610,583,669 yen. This shows a decrease of three in the number of banks and an increase of 239,000 yen in the amount of capital as compared with the figures at the end of the previous month.

OSAKA SPINNING CO.—The Osaka Spinning Co. proposes the issue of debentures to the amount of one million yen to be used in the construction of a new factory equipped with 1,700 weaving looms and 17,000 spindles at Osaka. It expects to commence operation about next March and be prepared to export shirtings.

ORIENTAL GLASS MANUFACTURING CO.—The factory of this company at Osaka will be ready for operation by the first of December, when it will be able to turn out 80,000 bottles daily, which figure represents the present importation. The company comprises French, Belgian and Japanese capital and is capitalized at 1,500,000 yen.

KOBE SUGAR REFINERY.—The payment of a quarter of the capital of the Kobe Sugar Refining Company, which has increased its capital from Y200,000 to Y2,000,000, has been completed, and the fact was duly registered. The building of the company's factory in Hyogo is now almost completed, and the machinery is now being installed. The accommodation now made is sufficient to produce 120 bags of sugar a day.

A BELGIAN RUBBER-VENTURE.—The Galang Exploitation Company has just held its annual general meeting at Brussels. It holds two estates in the district of Rhio, called Hollandia and Belgica. Hollandia has over 200,000 rubber trees not yet bearing, and Belgica over 390,000. The capital of the Company, 750,000 guilders—is sufficient for extensions. The directors propose to raise the capital to one million of guilders.

IMPERIAL HOTEL EXTENSION.—It was recently decided at a meeting of the shareholders of the Imperial Hotel at Tokio to raise the capital of the company from 1,200,000 yen to 2,000,000 yen and the difference expended in tearing down the existing building and rebuilding on the site now occupied by the minister of state for home affairs as an official residence. It is also proposed to convert the present site into a garden and to have the new building occupied before the exposition.

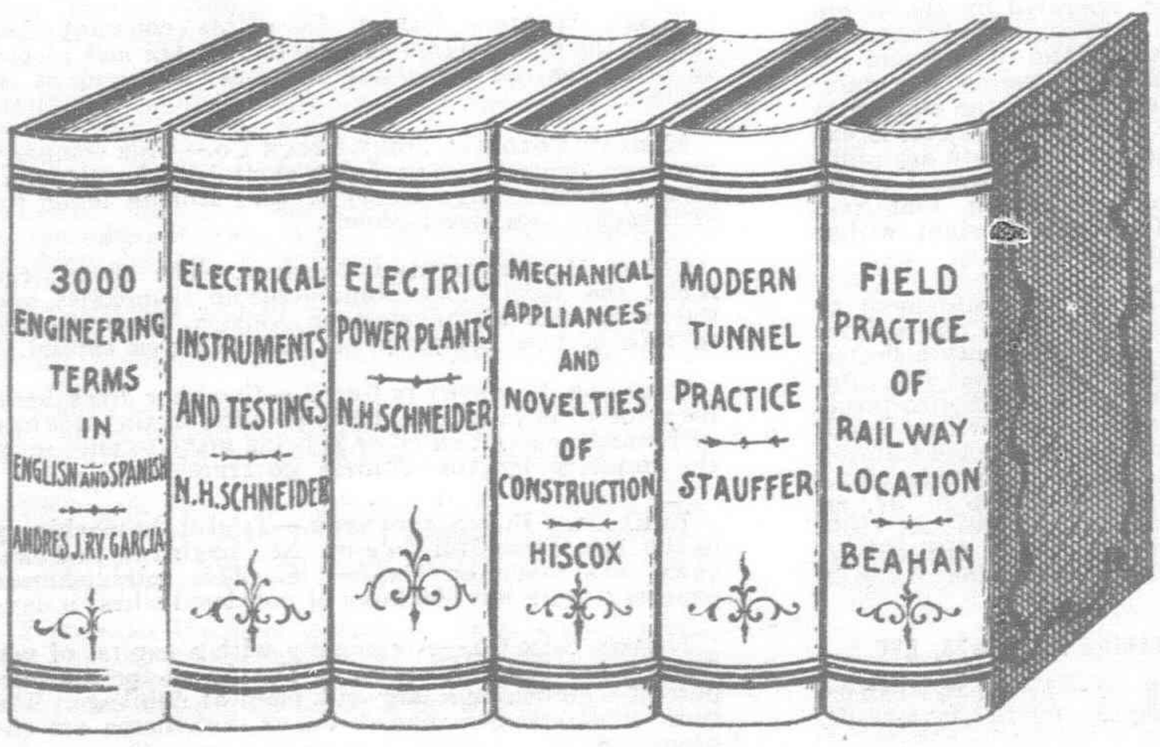
HEMP STATISTICS, 1st NOVEMBER, 1907

(Courtesy of C. S. NICHOLSON, *Secretary Manila Chamber of Commerce.)*

Arrivals of hemp at Manila up 31st October		647,762 *Bales.*
Arrivals of hemp at Cebu up 31st October		169,264 *Bales.*
Arrivals of hemp at all Ports up 31st October		817,026 *Bales.*
Stocks on hand in Manila and Cebu on 1st January		63,432 *Bales.*
TOTAL		880,458 *Bales.*
Export to all parts to date 31-10-07	765,367 *Bales.*	
Local consumption estimated at	6,879 "	772,246 *Bales.*
Total stocks at Manila and Cebu on 1st November, 1907		108,212 *Bales.*

EXPORT OF HEMP, OCTOBER, 1907.

Date	*Vessel*	*London*	*L'pool*	*Atlantic U. S.*	*Pacific East & California*	*Australia*	*Other pts.*	*Total Bales*
	F'wd:—	210,530	74,946	270,101	35,604	10,417	57,248	658,846
Oct. 1	Sungkiang.....Cebu	3,755	640	.....	.....	.....	250	4,645
" "	C. Lopez y Lopez	....	2,900	.....	.....	.....	160	3,060
" "	Taming.....	735	.....	....	....	.....	100	835
" 2	Bombay Maru.....	10,830	.....	.....	.....	....	.....	10,830
" 4	Rubi	.....	.....	.....	.....	.....	311	311
" "	Socotra	1,125	1,975	.....	....	.....	675	3,775
" "	Loongsang.....	1,525	975	.....	....	.....	352	2,852
" 7	Yawata Maru	.....	.....	....	.....	1,408	....	1,408
" 8	Keemun.....	.....	.....	.....	11,136	.....	.....	11,136
" "	Tean	340	.....	.....	.....	....	.....	340
" "	Louqsor.....	1,910	.....	.....	.....	.....	....	1,910
" 10	Sikh	.....	.....	4,500	.....	.....	.....	4,500
" 11	Yuensang.....	170	.....	....	.....	.....	805	975
" "	Zafiro	1,490	250	.....	....	.....	1,639	3,379
" 14	Changsha.....	.....	.....	.....	.....	200	.....	200
" "	Prinz Waldemar.....	.....	.....	.....	.....	.....	50	50
" 15	Taming.....	1,375	50	.....	.....	.....	700	2,125
" 18	Rubi	.....	.....	.....	.....	.....	170	170
" "	Loongsang.....	292	.....	.....	.....	.....	212	504
" 19	Kumeric.....	.....	.....	.....	1,800	.....	350	2,150
" "	Louqsor ....Cebu	2,738	1,851	.....	.....	.....	200	4,789
" 22	Tean	.....	578	.....	.....	.....	.....	578
" 25	Yuensang	.....	250	.....	....	.....	200	450
" 26	Kumano Maru	.....	.....	.....	.....	.....	404	404
" "	Zafiro	1,000	1,128	.....	.....	.....	1,120	3,248
" "	Sambia..... .....Cebu	.....	.....	.....	.....	.....	100	100
" "	Sungkiang..... do	.....	1,400	.....	.....	.....	.....	1,400
" 28	Isla de Panay.....	.....	1,922	.....	.....	.....	40	1,962
" "	Muncaster Castle.....	.....	.....	18,733	.....	.....	.....	18,733
" 29	Eastern.....	.....	.....	.....	.....	.....	196	196
" "	Taming.....	300	386	.....	.....	.....	11	697
" "	Orwell.....	14,025	... .	....	.....	.....	.....	14.025
" 30	Oanfa	.....	.....	.....	2,303	.....	.....	2,303
" 31	Kaifong ....Cebu	1,352	749	.....	.....	.....	380	2,481
		253,492	90,000	293,334	50,843	12,025	65,673	
	Corrections.....		+ 500			+ 140	— 640	
	TOTAL.....	253,492	90,500	293,334	50,843	12,165	65,033	765,367



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FAR EASTERN STOCKS AND QUOTATIONS

Courtesy of Messrs. Kadoorie & Co., Hongkong, for October, 1907.

STOCK.	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	WORKING ACCOUNT	DATE	LAST DIVIDEND.	Approximate Yield per cent. per annum at Present Quotation.*	CLOSING QUOTATIONS.
BANKS.											
Hongkong & Shanghai Banking Corporation	1865	$15,000,00	80,000	$125	$125	*g* £1,000,000; *s* $11,750,000; *i* $250,000	$1,797,167	30-6-07	£1.15[- for half year ending 30.6.07 @ ex 2[2 3/8 = $16 04 per share	5½	$665 sal. & sel.
do do (new)	1907		40,000	$125	$125						$660 sal. & sel, new issue £75
National Bank of China, Ld.	1891	£699,475	10) 99,925	£7	£6	*c* £12,735 $300,000	$71,293	31-12-06	$2 (London 3|6) for 1903	....	$51
Russo Chinese Bank	18	Rbs. 15,000,000 Tls. 2,000,000	80,000 16,000	Rbs. 187½ Tls. 125	Rbs. 187½ Tls. 125	*g* Rbs7,130,500; *s* Rbs2.000,000; *s* Tls 800,000	Rbs 41,	31-12-06	9 per cent		Tls. 175
MARINE INSURANCES.											
Canton Insurance Office, Ld.	1881	$2,500,000	10,000	$250	$50	$1,560,000; *j* $219,058; *u* $401,959	Nil.	31-12-06	$20 for 1906	8	$250
North China Insurance Co., Ld.	1863	£150,000	10,000	£15	£5	*g* £125,000; *s* Tls. 100,000; *f* Tls. 48 942	Tls. 204,424	30-6-07	Final of 7|6, per share making in all 15[- for 1906 (Tls. 2.65)	6	Tls. 73½ buyers
Union Ins. Society of Canton, Ld.	1867	$3,100,000	12,400	$250	$100	*s* $3,000 000; *g* £70,000; *f* $456,407; *j* £125,137.15; *u* $817,628	$1,460,490	31-12-06	Final of $12 making $42 for 1905, and interim of $30 for account 1906	5½	$780
Yangtsze Ins. Association, Ld.	1862	$800,000	8,000	$100	$60	$850,000; *j* $159,143; $1 988	$394,520	31-12-06	$12 for year ending 31. 12. 05	7¼	$165 sellers
FIRE INSURANCES.											
China Fire Ins. Co., Ld.	1870	$2,000,000	20,000	$100	$20	$1,000,000; *x* $320,449; *f* $7,616	$362,980	31-12-06	$6 and bonus $2 for 1905	9¼	$87 sales
Hongkong Fire Ins. Co., Ld.	1868	$2,000,000	8,000	$250	$50	$1,256,483	$435,236	31-12-06	$40 for 1905	13¼	$305 sales
SHIPPING.											
China & Manila Steamship Co., Ld	1882	$750,000	1) 30,000	$25	$25	$7,000	$363	31-12-06	$1 for 1906	6¾	$15 buyers
Douglas Steamship Co., Ld.	1883	$1,000,000	20,000	$50	$50	$264,638; *z* $96,988	Nil.	30-6-07	$4 for year ended 30-6-07	6¾	$37½
Hongkong, Canton & Macao Steamboat Co., Ld.	1865	$1,200,000	80,000	$15	$15	*e* $250,000; *d. i.* $550,000; *f* $ 86,989	$27,101	30-6-07	$1 for 1st half year ending 30-6-1907	7	$29¼ buyers
Indo-China Steam Navigation Co., Ld.	1882	*m* £600,000	2) 60,000	£5	£5	£60,000; *i* £270,000	£3,694	31-12-06	5|- @ ex. 2-2¾ = $2.24 per share for 1906	3¼	$41 sellers
(Preferred)			2) 60,000								$29 sellers
Do. Do. (Deferred)											
Shanghai Tug & Lighter Co., Ld.	1903	Tls. 1,500,000	20,000	Tls. 50	Tls. 50	Tls. 54,372	Tls. 13,327	31-12-06	Interim of Tls. 1¾ for a|c 1907	12	Tls. 45 sellers
Do. Preference			10,000							11	Tls. 50 sales
"Shell" Transport & Trading Co., Ld.	1898	£ 2,000,000	2,000,000	£1	£1	£400,000; *i* £1,871	£172,370	31-12-06	Interim of 1[- (Coupon No. 8) for a|c 1907	4½	43[- sellers
"Star" Ferry Co., Ld.	1898	$200,000	10,000	$10	$10	$65,000; *i* $32,957	$137	30-4-07	$1.00 / 50 cts. for year ended 30-4-07	4¾	$21 buyers
	1900		10,000	$10	$5					4¾	$10½ sales
Taku Tug & Lighter Co., Ld.	....	Tls. 1,500,000	12) 30,000	Tls. 50	Tls. 50	*b* Tls. 98,000; *d* Tls. 419,479; *e* Tls. 62,000; *i* Tls. 81,200; *q* Tls. 30,000	Tls. 18,730	31-12-06	Final of Tls. 2 making Tls. 6 for 1906	12½	Tls. 48 buyers
REFINERIES.											
China Sugar Refining Co., Ld.	1878	$2,000,000	20,000	$100	$100	*o* $345,741; *e* $450,000; *r* $ 56,848	$9,218	31-12-06	$8 for year ending 31-12-06	7¾	$104
Luzon Sugar Refining Co., Ld.	1882	$700,000	7,000	$100	$100	none	*Dr.* $138,523	31-12-06	$3 for 1897	....	$21
Perak Sugar Cultivation Co., Ld.	....	Tls. 350,000	7,000	Tls. 50	Tls. 50	Tls. 100,000	Tls. 8,935	31-8-06	Tls. 4. (8%) for year ending 31-8-06	4¾	Tls. 85 sellers
MINING.											
Chinese Engineering & Mining Co., Ld.	1901	£1,000,000	1,000,000	£1	£1	*d* £110,000; *h* £12,289	£12,546	28-2-06	Interim of 1|6 for account year ending 28-2-07	4	Tls. 15½ sales
Raub Australian Gold Mining Co., Ld	1892	£200,000	150,000 / 50,000	£1 / £1	18-10 / £1	£4,873	*Dr.* £11,358	31-3-07	No. 12 of 1[- = 48 cents.	....	$9 buyers
DOCKS, WHARVES AND GODOWNS.											
Fenwick (Geo.), & Co., Ld.	1889	$450,000	*z* 18,000	$25	$25	$64,124	$10,335	31-12-06	$1¾ for year ending 31-12-06	11	$16
Hongkong & Kowloon Wharf & Godown Co., Ld.	1886	$2,000,000	40,000	$50	$50	$550,000; *t* $23,152; *i* $30,000	$3,047	31-12-06	Interim of $2 for six months ending June 30th 1907	6	$67
Hongkong & Whampoa Dock Co., Ld.	1866	$2,500.000	50,000	$50	$50	*v* $50,000; $100,000	$491,580	30-6-07	$4 for half year ending June 30th 1907	7¾	$102
Shanghai Dock & Engin'g Co., Ld.	1906	Tls. 5,570,000	13) 55,700	Tls. 100	Tls. 100	Tls. 1,000,000	Tls. 10,459	30-4-07	Tls. 3 for year ending 30th 1907	4	Tls. 74
Shanghai & Hongkew Wharf Co., Ld.	1902	Tls. 3,600,000	14) 36,000	Tls. 100	Tls. 100	*b* Tls. 487,210; *r* Tls. 100,000; *p* Tls. 190,100; *e* Tls. 75,000	Tls. 23,117	31-12-06	Interim of Tls. 8 for a|c 1907	8¾	Tls. 202 sales
LANDS, HOTELS AND BUILDINGS											
Anglo-French Land Investment Co., Ld.	1906	Tls. 2,500,000	3) 25,000	Tls. 100	Tls. 100	Tls. 15,000	Tls. 3,388	28-2-07	Tls. 6 for 14½ months ending 28-2-07	6	Tls. 102½
Astor House Hotel Co., Ld.	1901	$750,000	4) 30,000	$25	$25	$30,000	$10,908	30-6-07	$2½ for year ending 30-6-07	10	$22 sellers
Astor House Hotel, Ld. (Tientsin)	....	Tls. 100,000	2,000	Tls. 50	Tls. 50	Tls. 35,000; *e* Tls. 10,000	Tls. 1,013	28-2-06	Final of Tls. 6½ making Tls. 11½ for year ending 28-2-06.	8½	Tls. 140 buyers
Central Stores, Ld.	....	$751,845	16) 50,123	$15	$15	*n.* $1.000	$9.178	31-12-06	$1.80 for 1906	13	$14
Hongkong Hotel Co., Ld.	1866	$600.000	12 000	$50	$50	$648,975; *r* $36,075	$10,925	31-6-07	$4 for 1st half-year ending 30-6-1907	10	$100 buyers
Hongkong Land Investment & Agency Co., Ld.	1889	$5.000,000	50,000	$100	$100	*e* $250,000	$56,218	31-12-06	Interim of $3½ for half year ending 30-6-07	7½	$96
Humphrey's Estate & Finance Co., Ld.	1887	$1,500,000	150,000	$10	$10	*i* $208,386; *e* $50,000	$11,567	31-12-06	80 cents for 1906	7½	$10¾

FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

STOCKS	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	WORKING ACCOUNT	DATE	LAST DIVIDEND	Approximate Yield per cent. per annum at Present Quotation.*	CLOSING QUOTATIONS
Kowloon Land & Bldg. Co., Ld.	1889	$300,000	6,000	$50	$30	none	$1089	31-12-06	$2½ for 1906	7	$36
Shanghai Land Investment Co., Ld.	1888	Tls. 3,900,000	78.000	Tls. 50	Tls. 50	Tls 869,493 / e Tls. 170,000	Tls. 61,978	31-12-06	Interim div. of Tls. 3 per share for % 1907	7½	Tls. 101 buyers
Tientsin Land Investment Co., Ld.	1902	Tls. 772,600	7,726	Tls. 100	Tls. 100	*i* Tls. 71,685	Tls. 1,973	31-12-06	Final of Tls. 5 making Tls. 8 for 1906	....	Tls. 100 buyers
West Point Bldg. Co., Ld.	1889	$625,000	12,500	$50	$50	none	$1,519	31-12-06	Interim of $2 for six months ending June 30th 1907	8½	$48
COTTON MILLS.											
Ewo Cotton Spinning & Weaving Co., Ld.	1895	Tls. 1,000,000	5) 20,000	Tls. 50	Tls. 50	Tls. 150,000 / Tls. 45,939	Tls. 64,986	31-10-06	Tls. 10 for year ended 31-10-06	18	Tls. 55 sellers
Hongkong Cotton Spinning, Weaving & Dyeing Co., Ld.	1901	$1,250,000	125,000	$10	$10	*e* $60,000	$14,269	31-17-07	50 cents for year ending 31-7-07	4¾	$10½
International Cotton Manufacturing Co., Ld.	1895	Tls. 750,000	6) 10,000	Tls. 75	Tls. 75	Tls. 150,000	Tls. 36,211	30-9-06	Tls. 6 for year end. 30 9-06 (8%)	11½	Tls. 53
Laou-kung-mow Cotton Spinning & Weaving Co., Ld.	1895	Tls. 800,000	7) 8,000	Tls. 100	Tls. 100	none	Tls. 31,469	31-12-06	Tls. 8 for 1906	8¾	Tls. 90
Soy Chee Cotton Spinning Co., Ld	1895	Tls. 1,000,000	2,000	Tls. 500	Tls. 500	*l* Tls. 28,257	Tls. 50,663	31-12-06	Tls. 50 for 1906	17¼	Tls. 280 sellers
MISCELLANEOUS.											
Bell's Asbestos Eastern Agency, Ld.	1895	£5,377.10s	11) 8,604	12-6	12-6	£1,299	£638	31-12-06	1s. 3d. for 1906	9	$ 6½
Campbell, Moore & Co., Ld.	1886	$12,000	1,200	$10	$10	$9,000	$653	31-12-06	$3 for 1905	....	$20 sellers
China-Borneo Co., Ld.	1903	$720,000	8) 60,000	$12	$12	none	Nil.	31-12-06	$1 for 1904	....	$10 sales & b.
China Flour Mill Co., Ld.	....	Tls. 200,000	4,000	Tls. 50	Tls. 50	Tls. 50,000	Tls. 889	31-12-05	Final of Tls. 5 making Tls. 10 for 1905	....	Tls. 50 buyers
China Light & Power Co., Ld.	1901	$550,000	50,000	$10	$10	none	$25,000	28-2-07	60 cents for year ending 28-2-06	....	$6 buyers
Do. do. Special Shares	1907		17) 50,000	$1	$1						
China Provident Loan & Mortgage Co., Ld.	1898	*a* $1,000,000	100,000	$10	$10	$115,000	$855	31-12-06	80 cents for 1906	8½	$9½
Dairy Farm Co., Ld.	1896	$187,500	25,000	$7½	$6	*i* $60,000 / $5,000	$2,974	31-7-06	$1.30 for year ending 31-7-07	8	$16½ sales
Green Island Cement Co., Ld.	1889	$4,000,000	400,000	$10	$10	$11,000	$10,804	31-12-06	Interim div. of 50 cents per share for % 1907	8¾	$11½ buyers
Hall & Holtz, Ld.	....	$420,000	21,000	$20	$20	$186,000	$15,002	28-2-07	$2½ for year ending 28-2-07	11¼	$20½ buyers
Hongkong Electric Co., Ld.	1889	$600,000	60,000	$10	$10	none	$2,953	28-2-07	$1.00 for year ending 28-2-07	6¾	$14¾ sales
Hongkong Ice Co., Ld.	1881	$125,000	5,000	$25	$25	*k* $105,000	$4,361	31-12-06	Interim of $4 for half year end. June 30th 1907	9½	$240
Hongkong Rope Manufacturing Co., Ld.	1883	$500,000	50,000	$10	$10	$65,000	$4,212	31-12-06	Interim of 80 cents per share for % 1907	8	$25½ buyers.
Maatschappij tot Mijn-, Bosch- en Landbouwexploitatie in Langkat	1902	Gs. 2,500,000	25,000	Glds. 100	Glds. 100	Tls. 547,500 / *i* Tls. 27,603	Tls. 10,374	31-10-05	Third interim div of Tls. 7½ making Tls. 22½ account 1907	9½	Tls. 315 buyers.
Peak Tramways Co., Ld.	1907	$750.000	25,000	$10	$10	none	$2,655	30-4-07	$1 per share for period from 19th Oct. to 30th April, 1907	8½	$12 buyers
Do. (New)			50,000	$10	$1						$2 bnyers.
Philippine Co., Ld.	1904	$675,000	67,500	$10	$10	none	*Dr.* P. 34,324	31-12-05	None	....	$5 buyers
Shanghai Gas Co., Ld.	1903	Tls. 800,000	24,000	Tls. 50	Tls. 50	*d* Tls. 100,000	Tls. 7,990	31-12 06	Interim of Tls. 3½ for a[c 1907.	7¾	Tls. 107 sales
Shanghai Horse Bazaar Co., Ld.	1904	Tls. 270,000	5,400	Tls. 50	Tls. 50	Tls. 67,323	Tls. 9,751	31-12-05	Tls. 4 for 1905	....	Tls. 36½ sellers
Shanghai Pulp & Paper Co., Ld.	....	Tls. 450,000	4,500	Tls. 100	Tls. 100	Tls. 45,000 / *e* Tls. 8,000	Tls. 3,354	31-12-06	Final of Tls. 5 making Tls. 10 for 1906	....	Tls. 66 buyers
Shanghai-Sumatra Tobacco Co., Ld.	1902	Tls. 600,000	9) 30,000	Tls. 20	Tls. 20	Tls. 24,820 / *w* Tls. 50,000	Tls. 7,843	31-10-06	Interim of Tls. 5 (25%) account 1907	9½	Tls. 108 sales
Shanghai Waterworks Co., Ld.	1881	£327,000	16,350	£20	£20	Tls. 190,000	Tls. 85,592	31-12-05	Interim of 15/- for % 1907(old) Interim of 11/-3 for % 1907(n.)	....	Tls. 315 buyers
South China Morning Post, Ld.	1903	$150,000	6,000	$25	$25	none	*Dr.* $41,934	28-2-06	None	....	$22
Steam Laundry Co., Ld.	1902	$100,000	20,000	$5	$5	none	478	31-5-07	40 cents for year ending 30-5-07	6¾	$5½
Tientsin Waterworks Co., Ld.	1901	Tls. 200,000	2,000	Tls. 100	Tls. 100	Tls. 15,259 / *e* Tls. 4,000	Tls. 201	30-4-07	Tls. 6½ for year ending 30-4-07	....	Tls. 97
Union Waterboat Co., Ltd.	1905	$500,000	15) 50,000	$10	$10	none	$349	31-12-06	First year.	....	$11½
United Asbestos Oriental Agency, Ld.	1896	$100,000	10,000	$10	$4	$35,000	$1,300	31-5-07	80 cts. on 9,900 ord. shares & $19.80 on 100 founder shares for year ending 31-5-07	8	$10
Watson (A. S.) & Co., Ld.	1886	$900,000	90,000	$10	$10	$300,000 / $25,000	$5,482	31-12-06	Final of 40 cts. making 80 cts. per share for year ending 31-12-06	7½	$11
William Powell, Ld.	1901	$150,000	15,000	$10	$10	none	$41	30-6-07	Final of 30 cents making 80 cents for year ending June 30th 1906	....	$5¼ sales

LOANS AND DEBENTURES.	AGENTS FOR THE LOAN.	AMOUNT OF LOAN.	PAR VALUE	OUTSTANDING BONDS.	WHEN PAYABLE.	CLOSING QUOTATIONS.	
China Government, 7 per cent. Silver Loan 1886 E	Hongkong & Shanghai Banking Corporation.	Tls. 767,200	Tls. 250	1914	Mar. 31st and Sept. 30th each year until Mar. 31st, 1917	par.	Plus accrued interest
Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899 ‡		$500,000	$500	§ all	Half yearly, June 30th and December 31st	par.	
Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902		Tls. 543,900	Tls. 100	.....	Half yearly, June 30th and December 31st	Tls. 99	
Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903		Tls. 500,000	Tls. 100	.....	Half yearly, January 1st and July 1st	Tls. 105	
Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903 †	.....	£500,000	¶	£431.960	Half yearly, June 30th and December 31st	par.	
International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901	Russo Chinese Bank	Tls. 500,000	Tls. 100	||	Half yearly, March 31st and Sept. 30th	Tls. 97½.
China Light and Power Co., Ltd. 6% Debentures of 1907 ***	.....	$500,000	$100	.....	Half yearly, June 30th and December 31st.	par.	

a Authorized capital $2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund
h Exchange Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account
r Repairs and Renewals Account.
s Silver Reserve Fund.
t Depreciation and Repairs Account
u Underwriting Suspense Account.
v Special account
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 5,725 shares unissued.
2 First issue of 60,000 of which 10,411 unalloted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unalloted.
6 1,616 shares unalloted.
7 842 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.
13 500 shares unissued.
14 198 shares unissued.
15 22,250 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 5,000,000.
* Based on last year's dividend.
** Based on present dividend.
|| Only Tls. 134,000 taken up.
§ 216 held by the Company.
¶ In certificates of £20 and £100.
‡ Redeemable in 10 years, or at option of Company, the Company giving 6 months notice.
† Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 1952.
*** Redeemable at par on 30th June, 1952.
Dr Deficit.

SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, OCTOBER 31, 1907)

Date of Formation	Capital	Capital paid up	No of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers	Closing Quotations
								MINING			
1903	$300,000	300,000	30,000	10	10	.....	25% for year ending 31-3-07	Belat Tin Mining Co., Ltd	12.25	12.50	$12.50
1907	$300,000	225,000	22,500*b*	10	10	.....		Bruang Ltd	8.00	8.25	8.25
1901	$600,000	600,000	60,000	10	10	.....	20% for year ending 30-4-07	Bruseh Hydraulic Tin Mining Co., Ltd	14.50	15.00	15.00
1903	£400,000	350,000	350,000*a*	1	1	.....		Duff Development Co., Ltd	2.25	2.40	2.40
1905	£30,000	30,000	30,000	1	1	.....	3/- during 1906	Jeher Hydraulic Tin Mine, Ltd	....	9.00	9.00
1907	$400,000	375,000	37,500*b*	10	10	.....		Kanaboi, Ltd	9.50	10.00	10.00
1901	£60,000	60,000	60,000	£1	£1	.....	1/ interim during 1907	Kinta Tin Mines, Ltd	12.00	12.50	12.50
1906	£100,000	£90,000	90,000*c*	£1	£1	.....		Kledang Tin Mining Co., Ltd	12.50	13.00	13.00
1905	$150,000	99,000	9,900*d*	10	10	6,000	25% interim for 1907	Kuantan Tin Mining Co., Ltd	15.75	16.25	16.25
1906	£120,000	120,000	120,000	1	1	.....		Lahat Mines Ltd	7.75	8.25	8.25
1906	£30,000	30,000	30,000	£1	£1	.....		Malaya and Siam Corporation, Ltd	....	£1.5.6	£1 5*s.* 0*d.*
1906	$450,000	337,500	45,000	10	7.50	.....		Malacca Tin Dredging Co., Ltd	7.00	7.50	7.50
1906	£250,000	179,500	600,000*j*	5/-	5/-	.....		Pahang Consolidated Co., Ltd	39/6	40/-	40/-
			100,000	£1	£1	.....		" " " 7% *Pref*	....	....	nominal.
1904	£120,000	100,000	100,000*e*	1	1	.....	4/6 interim during 1907	Pusing Lama Tin Mines, Ltd	....	15.50	15.50
1905	£27,000	21,759	21,750/	1	1	.....	1/- interim during 1907	Rambutan, Ltd	....	11.75	11.75
1892	£200,000	191,250	50,000	1	1	4,873	1/- paid January 1901	Raub Aust Gold Ming Co., Ltd, *Fully. pd.*	7.50	7.75	7.75
			150,000	1	18/10	.....	1/- " " "	*Contrib*	7.50	7.75	7.75
1905	£40,000	35,200	35,200*g*	1	1	.....		Redhills Tin Mining Co., Ltd	13.50	14.00	14.00
1898	2.500,000	2,500,000	25,000	100	100	.....	52½% for year ending 31-12-06	Redjang Lebong Mining Co	....	....	620.00
1900	$110,000	110,000	22,000	5	5	.....	10% for 1907	Royal Johore Tin Mining Co., Ltd	2.00	2.25	2.25
1907	£80,000	80,000	80,000	1	1	.....		Sempam Tin Mines, Ltd	9.50	10.00	10.00
1906	$850,000	850,000	85,000	10	10	.....	20% interim during 1907	Serendah Hydraulic Tin Ming. Co., Ltd	....	13.25	13.25
1899	$230,000	230,000	23,000	10	10	.....	5% for ½ year ending 30-6-06	Sipiau Tin Co., Ltd	....	5.75	5.75
1907	£90,000	70,000	70,000*d*	£1	£1	.....		Tekka, Limited	....	12.25	12.25
1902	£160,000	149,185	149,185*h*	1	1	.....	5/- interim during 1907	Tronoh Mines, Ltd	16.00	17.00	17.00
1907	$60,000	60,000	600	100	100	.....		Tunggal Tin, Ltd	....	....	nominal
								RUBBER			
1905	£150 000	£116,625	46,500*i*	1	1	.....	10% interim for 1907	Anglo-Malay Rub. Co., Ltd. *Fully paid*	£5.2.6	....	£5 2*s.* 6*d.*
			93,500	1	15/-	.....		" " " *Contributory*	....	4.11.0	£4. 11*s.* 0*d.*
1905	$200,000	105.000	10,500	10	10	.....	12½% interim for 1907	Balgownie Rub. Estate Ltd. *Fully paid*	....	$35.00	$35.00
1904	£30,000	15,250	7,000*k*	1	1	.....		Batu Caves Rub. Co., Ltd. *Fully paid*	....	5.12.6	£5. 12*s.* 6*d.*
			11,000	1	15/-	.....		" " " *Contributory*	....	....	£4. 5*s.* 0*d.*
1903	£70,000	61,000	61,000*l*	1	1	.....	30% for year ending 31-3-07	Bukit Rajah Rubber Co., Ltd	....	6.15.0	£6. 15*s.* 0*d.*
1906	$150,000	125,000	12,500*m*	10	10	.....		Castlewood Rubber Co., Ltd	13.00	13.50	$13.50
1904	£12,000	10,500	6,000	1	1	.....	15% for year ending 31-3-07	Cicely Rubber Estates Co., Ltd	5.10.0	£6.0.0	£5. 10*s.* 0*d.*
			6,000	1	15/-	.....	20% for year ending 31-3-07	" " " " 5% *Pref*	5.17.6	£6.7.6	£5. 17*s.* 6*d.*
1905	£75,000	55,000	55,000*n*	1	1	.....	10% for year ending 31-12-06	Consolidated Malay Rub. Estates, Ltd	£3.7.6	3.12.6	£3 12*s.* 6*d.*
1906	£310,000	243,227	181,454*o*	1	1	.....	11% for year ending 31-12-07	Highlands & Lowds. Para Rub. Co., Ltd. *Fully paid*	....	£3.9.6	£3 9*s.* 6*d.*
			123,546	1	10/-	.....		" " " " *Contributory*	....	£2.0.0	£2 0*s.* 0*d.*
1906	£180,000	£180,000	180,000	1	1	.....		Kuala Lumpur Rubber Co., Ltd	....	1.12.0	£1 12*s.* 0*d.*
1906	/.175,000	/.146,250	80	/.250	250	.....		Langen Rub. and Cocoanut Co., Ltd	....	....	/.300.
			460	/.250	187.50	.....		" " " " " "	....	....	/.225.00
			160	/.250	250	.....		" " " " " *Deferred*	....	....	/.250.
1906	$250,000	225.000	22,500*p*	10	10	.....		Ledbury Rubber Co., Ltd	16.75	17.25	$17.25
1895	£50,000	50,000	40,000	1	1	.....	10% interim for 1907	Linggi Plantations Ltd., *Ordinary*	£7.3.6	7.10.0	£7 2*s.* 6*d.*
			10,090	1	1	.....		" " " 7% *Pref*	....	....	.....
			115,000	1	1	.....	7½% for year ending 31-12-06	Malacca Rubber Plantations 7½% *Pref*	£1.5.0	£1.7.6	£1 7*s.* 6*d.*
1906	£300,000	260,625	140,000	1	1	.....		" " Ordinary *Fully paid*	....	19/3	19/3
			45,000	1	2/6	.....		" " *Contributory*	....	....	nominal.
1903	£30,000	20,000	20,000*q*	1	1	.....	40% for 1906	Pataling Rubber Estates Synd. Ltd	....	£8.7.6	£8. 7*s.* 6*d.*
1906	$250,000	225,000	22,500*e**	10	10	.....		Ragalla Rubber Co., Ltd	....	13.25	$13.25
1904	£20,000	8.794	2,588*d**	1	1	.....		Sagga Company Limited	2.10.0	....	£2. 10*s.* 0*d.*
			12.412	1	10/-	.....		" " "	....	....	.....
1904	$100.000	100,000	1 000	100	100	.....	20% for year ending 31-1-07	Sandycroft Rubber Co., Ltd	....	375.00	$375.00
1898	£30,000	28,150	263,000	2/-	2/-	.....	25% interim for 1907	Selangor Rubber Co., Ltd	....	....	19/-
			37,000	2/-	1/-	.....		" "	....	....	nominal.
1903	$250,000	250 000	2,500	100	100	.....		Sing. & Johore Rub. Co., Ltd. *Fully paid*	....	200.00	$200.00
1905	$100,000	100,000	10 000	10	10	.....	7½% for year ending 30/6/07	Sione Rubber Co., Ltd	....	17.75	$17.75
1906	£100,000	93,375	73,500	£1	£1	.....					nominal.
			26,500	£1	15/	.....		Sungei Kapar Rubber Co., Ltd	£2.1.0	....	£2 1*s.* 0*d.*
1904	£50,000	28,795	6,920*r*	1	1	.....		Sungei Way (Selangor) Rub. Co. Ltd	....	....	£2 7*s.* 6*d.*
			35,000	1	12/-6	.....		" " " *Contributory*	....	£2 0.0	£2. 0*s.* 0*d.*
1904	£60,000	50,000	50,000*s*	1	1	.....	55% for 1906	Vallambrosa Rubber Co., Ltd	8.10.0	£9.5.0	£9 5*s.* 0*d.*
								GENERAL			
1894	£5,377.10.0	£4,805	7,688*h**	12/6	12/6	£1,300	10% for year ending 31-12-06	Bells Asbestos Eastern Agency, Ltd	....	....	7.00
1898	$225,000	225,000	4,500	50	50	112,500	15% & 2½% bon. for yr. end. 31-12-06.	Fraser & Neave, Ltd	150.00	....	150.00
1865	$15,000,000	15,000,000	80,000	125	125	1,000,000*w*	£1 15*s.* 0*d.* for ½ year ending 30/-	Hongkong & Shanghai Bankg Corptn	....	....	605.00
			40,000	125		11,750,000*x*	6/07 at ex. £2 2*s.* 3-16*d.*=$16.04				600.00
						250,000*y*					
1905	$2,400,000	2,400,000	18,000	100	....	40,000	7½% for year ending 31-10-06	Howarth Erskine, Ltd	162.00	....	162.50
			6,000	100	....	.....	7% for year ending 31-10-06	" " 7% *Pref*	120.00	....	120.00
1896	$1,000,000	1,000.000	6,000	100	100	600,000	10% for year ending 31-12-06	Katz Brothers, Ltd. *Deferred*	....	....	135.00
			4,000	100	100	.....	8% " " " "	" " 8% *Cum. Pref*	....	....	nominal.
1901	$34,000	34,000	3,400	10	10	.....	20% for year ending 31-10-06	Maynard & Co., Ltd	20.00	22.00	22.00
1899	$875,000	875,000	6.000	100	100	150.000	5% for year ending 31/12/06	Riley, Hargreaves & Co., Ltd	120.00	122.50	120.00
			2,750	100	100	.....	7% for year ending 31/12/06	" " " " 7% *Pref*	112 50	....	112.50
1903	$600,000	240,000	24,000*t*	10	10	.....		Singapore Cold Storage Co., Ltd	....	7.00	7.00
1891	$30,000	30,000	600	50	50	20,000	10% for year ending 31-7-07	Singapore Dispensary Ltd	50.00	55.00	55.00
1884	$200,000	200,000	2,000	100	100	35,000	20% for year ending 31-12-05	Straits Ice Co., Ltd	120.00	125.00	125.00
1890	$500,000	500,000	5,000	100	100	400,000	5% interim during 1907	Straits Steam Ship Co., Ltd	200.00	205.00	200.00
						241 075*z*					
1904	$40,000	$30,280	2,535*u*	10	8	.....		Straits Tobacco Factory, Ltd	....	5.50	5.50
			1,000	10	10	.....		" " " "	....	....	nominal.
1887	$3,000,000	2,500,000	250,000*v*	10	10	1,050,000	10% & 5% bon. ½ yr. end. 31-3-07	Straits Trading Co., Ltd	....	56.00	56.00
						1,137 084*a**					
								DEBENTURES			
								Howarth Erskine, Ltd. 6% $ 600,000	....	....	3% prem.
								Riley, Hargreaves & Co., Ld. 6% 225,000	....	....	3% prem.
								Singapore Municipal 6% 400,000	....	....	20% prem.
								" " 5% 1,878,000	....	5%	3% prem.
								" " 4½% 1,600,000	....	....	5% prem.
								" " 4% 602,900	....	....	2% dis. nom
								Straits Engineering Sind. Ltd. 6% 45,000	....	....	par,
								Tanjong Pagar. Dock Board 6% 250,000	....	....	3% prem.
								" " " 5% 1,050,000	....	....	par.

a 50,000 unissued
b 2,500 "
c 10,000 "
d 5,100 "
e 20,000 "
f 5,250 "
g 4,800 "
h 10,815 "
i 10,000 "
j 100,000 " *Ord.*
45,590 " *Pref.*
k 12,000 "

l 39,000 unissued.
m 2,500 "
n 20,000 "
o 5,000 "
p 2,500 "
q 10,000 "
r 8,080 "
s 10,000 "
t 36,000 "
u 465 "
v 50,000 "
w Special Gold Reserve Fund

x Silver Reserve Fund.
y Insurance Fund.
z Sundry Reserves.
*a** Sundry Reserves.
*b** 7,500 unissued.
*c** 20,000 "
*d** 5,000 "
*e** 2,500 "
*f** 916 "

YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, OCTOBER 1907

STOCKS	CAPITAL.	NO. OF SHARES	ISSUE VALUE	AMOUNT PAID UP	RESERVE FUND	AT WORKING ACCOUNT OR CARRIED FORWARD	DATE	LAST DIVIDEND	FOR TERM	CLOSING QUOTATION
Brett & Co., Ltd.	-Y- 28,000	2800	-Y- 10	-Y- 10			31-12-06	8%	for 1 year	10 Sellers.
Club Hotel, Ltd.	185,000	1850	100	100	3,000	-Y- 943.52	31-3-07	7%	for 1 year	75 Sellers.
Grand Hotel, Ltd.	500,000	5000	100	100	5,000	-Y- 23,011.87	30-6-07	6%	for ½ year	150 Sales.
Helm Bros., Ltd.	186,000	3720	50	50	22.500	-Y- 2,916.83	31-12-06	20%	for 1 year	80 Sellers.
Langfeldt & Co., Ltd.	150,000	1500	100	100		Dr. 20.304.15	31-12-06		for ½ year	45 Sales.
C. Nickel & Co., Ltd. †	500,000	20000	25	25		1,470.97	31-10-06	16%	for 1 year	41 Nominal.
Yokohama Engine and Iron Works *	500,000	10000	50	50	50,000	-Y- 12,477.04	31-5-07	35%	for 1 year	90 Sellers.
Oriental Hotel, Ltd., Ordinary	250,000	3000	50	50	62,285.42		31-8-06	15%	for 1 year	50 Nominal.
Oriental Hotel Ltd., Preference		2000	50	50				8%	for 1 year	50 Nominal.
The Union Estate, and Investment Co., Ltd. ‡	1,000,000	10000	100	100			First Year.			105 Sales.

† 285,000 unissued.

*-Y- 390,000 issued.

‡ 475,000 unissued.

110,000 unissued.

DEBENTURE LOANS	AMOUNT OF LOAN.	FACE VALUE OF DEBENTURES.	RATE OF INTEREST.	INTEREST PAYABLE.	CLOSING QUOTATION.
Brett & Company, Limited	11,500.00	100.00	7%	1 June and 1 Dec.	95 Sales.
Yokohama United Club	250,000.00	100.00	7%	30 June and 31 Dec.	105 Sales.
C Nickel & Company, Limited	50,000.00	100.00	8%	1 May and 1 Nov.	110 Sellers.
Oriental Hotel, Limited	250,000.00	100.00	8%	1 April and 1 Oct.	100 Sellers.
Union Estate and Investment Co., Limited	250,000.00	100.00	6%	30 June and 31 Dec.	100 Sellers.

JAPANESE STOCKS.	FACE VALUE.	AMOUNT PAID UP.	DIVIDENN PER ANNUM.	DIVIDEND PAYABLE.	CLOSING QUOTATION.
Exchequer Bonds 1st issue	-Y-100	-Y-100	5%	June and Dec.	-Y- 97.80
Exchequer Bonds 2nd issue	100	100	5%	March and Sept.	,, 92.80
Exchequer Bonds 3rd issue	100	100	5%	March and Sept.	,, 92.80
Consolidated Bonds (Seiri)	100	100	5%	June and Dec.	,, 87.50
War Bonds (Gunji)	100	100	5%	June and Dec.	, 87.50
Imperial 5% Bonds (Goburi)	100	100	5%	March and Sept.	,, 85.00
Imperial Government 5% Bonds (issued 1906)	100	100	5%	June and Dec.	,, 87.40
Kobe Water Works Bonds	100	100	6%	June and Dec.	,, 97.50
Osaka Harbour Bonds	100	100	6%	June and Dec.	,, 97.50
Osaka City Public Loan Bonds	100	100	6%	June and Dec.	,, 97.50
Yokohama Water Works Bonds	100	100	6%	June and Dec.	,, 98.00
Yokohama City Public Loan Bonds	100	100	6%	March and Sept.	,, 97.00
Sanyo Railway Company Debentures (2nd issue)	100	100	6%	April and Oct.	,, 98.50
Tokyo Stock Exchange Company	50	50	40%	June and Dec.	,, 135.95
Hokkaido Colliery (Tanko) Steamship Company, Limited	50	50	14%	July and Jan.	,, 94.90
Hoden Petroleum Company, Limited	50	50	36%	April and Oct.	,, 139.00
Yokohama Electric Tramway Company, Limited	50	50	7%	July and Jan.	,, 47.00
Tokyo Railway Company Limited	50	50	9%	June and Dec.	,, 63.50
Keihin Electric Railway Company, Limited	50	50	13%	June and Dec.	, 85.00
Imperial Hemp Weaving Company, Limited	50	50	13%	July and Jan.	,, 58.00
Kanegafuchi Cotton Spinning Company, Limited	50	50	22%	July and Jan.	,, 115.00
Tokyo Cotton Spinning Company, Limited	50	50	20%	July and Jan.	,, 77.80
Fuji Gassed-Yarn Company, Limited	50	50	25%	July and Jan.	,, 115.50
Nisshin Cotton Spinning Company, Limited	50	12½	—	——	,, 13.00
Fuji Paper Mill Company, Limited	50	50	10%	June and Dec.	,, 51.00
Yokohama Dock Company, Limited	50	33	15%	June and Dec.	,, 65.50
Tokyo Rope Manufacturing Company, Limited	50	50	20%	June and Dec.	,, 90.00
Nippon Sugar Refinery Co., Ltd. (Tokyo)	50	50	20%	June and Dec.	,, 104.25
Dai Nippon Beer Brewery Company, Limited	50	50	15%	July and Jan.	,, 101.50
Tokyo Gas Company, Limited	50	50	15%	July and Jan.	,, 91.30
Kirin Brewery Company, Limited	50	50	8%	July and Jan.	,, 66.00
Tokyo Electric Light Company, Limited	50	50	10%	June and Dec.	,, 65.00
Yokohama Electric Light Company, Limited	50	50	15%	July and Jan.	,, 81.50
Osaka Electric Light Company, Limited	50	50	15%	July and Jan.	,, 114.90
Kobe Electric Light Company, Limited	50	50	14%	July and Jan.	,, 87.00

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